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Intravenous Bismuth in Lues
Cirrhosis Hepatis Juvenilis
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Medical Book News

Editorials

Contemporary Progress

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EDITORIALS

The Properly Fed Mother Not Likely to Die

THE extra rations allowed pregnant women in Britain have brought about an infant mortality rate of forty-nine a thousand, compared to a pre-war figure of fifty-three a thousand, and a maternity death rate of 2.47 a thousand as against a pre-war figure of a little more than three a thousand. The granting of the extra rations tends to enable the authorities to control prenatal care adequately.

No doubt much of the mortality formerly charged against physicians in this country was due to nutritional and economic factors for which medicine was in no wise responsible.

The Doctor As Social Therapist

IN more than one place in his book *How to Think About War and Peace*, Mortimer J. Adler, of the University of Chicago, falls back on medicine for ideas and arguments. Thus on page 27 he says that "The history of medicine records the shifting of many diseases from the incurable column to the list of the curable and the cured. With gains in knowledge and advances in therapy, we have learned, not only how to prevent and cure such ills as typhoid fever and diphtheria, but, what is more important, we have learned that they were never incurable in the first place. The discovery of our error in thinking the *merely uncured* to be incurable gives us confidence that other ailments still uncured will turn out to be curable as medical science progresses. We have come to suspect that all diseases are curable, and that it is up to us to find out how to cure the ones which still prove fatal. But we also distinguish between the ills of human flesh and its mortality. We do not expect to cure death. . . . *Is war like disease, or*



is it like death? Is it intrinsically curable, though still uncured? Are we in danger of making the same sort of error about it that men once made about typhoid and some still do about cancer?"

Sigerist, in his *Civilization and Disease*, reminds us that medical sociology has lagged behind our technical advance. Of course, all the social sci-

ences have lagged in the same sense.

Sanitation and hygiene have been a special feather in our cap, for there we have not lagged, as we pointed out at some length in our April issue ("Hygiene, Lusty Youngster"). This is social therapy in the best sense.

Perhaps in the course of the five hundred years which Adler thinks it will take to complete our civilization—the greatest proof of which will be the cure of war—the medical profession will take a foremost part in curative social therapy. After technical medicine has reached perfection we shall have to look about us to discover other fields in which to apply our therapeutic talents. Those talents and certain latent powers in the profession have vast potential possibilities. We shall not always be content merely to bandage wounds, repair shattered bones, expedite return of the injured and sick to the battle fronts, and soothe the dying; for in days to come we shall be practicing preventive medicine in its broadest sense.

Professor Edwin G. Conklin, of Princeton, in addressing the graduates in medicine at the University of Pennsylvania on December 22, 1943, said that "The world needs more statesmen and lawyers and educators and public leaders with the realism and idealism of scientific medicine. Too long have our social leaders treated the ills of society as savage medicine men, witch doctors, magicians and plain fakirs once treated the diseases of the body, trying to charm away the symptoms rather than to remove the causes of diseases. The



Political medicine, too, must be repulsed!

disorders and diseases of society have natural causes and these causes must be controlled if social health is to be restored. Wars and social revolutions are man-made and they can be man-cured. May the spirit and methods of modern medicine guide our national leaders in treating this sickness of society, and may the humanitarian ethics of medicine grow and expand in all human relations!"

Medical Education of the Public

AS to the literature which purports to educate the public R. W. Gerard (*Scientific Monthly*, August, 1943) has shrewdly said: "The reader of such news items is only concerned, or at least the writer of them assumes he is concerned, with enjoying a gentle tingling of his imagination, a sort of mental Turkish bath. Active exercise of his intelligence, to appreciate the significance of or principles behind a real scientific development, is neither expected nor aided."

Some of us have always had misgivings concerning public education in medical matters. Some time ago the *New England Medical Journal* pointed out that the wide and effective educational programs of state health departments, various non-profit organizations and commercial agencies like the Metropolitan Life Insurance Company are being taken advantage of by our advertising geniuses. Just as these geniuses have exploited "alkalizing, laxatizing and antihalitizing remedies," so they have taken over the new fields of vitamin and

hormone therapy. The point is that such advertising campaigns are predicated upon a certain amount of medical education of the public. This insures the squandering of the "educated" people's money upon unneeded and even worthless medication, money which would otherwise be invested in effective health and medical services, including workable insurance schemes. "The medical profession in the end will pay the bill."

Here is something to think about, whether or not we are believers in medical education of the public.

Boomerang Medicine

WHAT medicine leaves behind—often times compounded of error as well as wisdom—not infrequently remains, for long periods of time, the therapeutic gospel of the laity. Instances from the pages of history multiply themselves.

In former times this popular adherence to discarded doctrine was not so obtrusive as now. But today the radio blares it forth at all sorts of moments congruous and incongruous. Thus it is not unusual to hear, perhaps in the wards of a hospital (of all places!) stentorian encomiums showered upon some application for "rheumatic" troubles and upon some greasy drops of yesteryear for infections of the respiratory tract. The alkalizers, the lubricants, the laxatives, the headache cures, the cough appeasers and the antiseptics—each and all representing some medical "aberration" or temporary phase of the healing art—make up the long list.

To be constantly confronted by these forgotten and useless, but now highly commercialized, things is to an educated physician like the somewhat spectral visits of long-buried Freudian goblins of the unconscious to a victim of neurosis.

Comical in a way, such "medicine" none the less possesses a boomerang quality, though not maliciously directed. We ourselves were responsible in the first place for many of the silly things that are exploited and they persist in plaguing us, like bastard children of a misspent youth.

So when the radio blares, the doctor may show a sickly smile as a kind of guilty masquerade, but, though the best of sportsmen, he could never manage a good laugh. For, speaking seriously, he knows that such anachronistic "medicine" has no real reason for being.

On the page facing . . .

But . . . while Apollyon was fetching his last blow, thereby to make a full end of this good man, Christian nimbly stretched out his hand for his sword, and caught it; . . . and with that gave him a deadly thrust, which made him give back, as one that had received his mortal wound. Christian, perceiving that, made at him again. . . . And with that Apollyon spread forth his dragon's wings, and sped him away, and Christian saw him no more.

The Pilgrim's Progress

BISMUTH, GIVEN INTRAVENOUSLY, IN THE TREATMENT OF SYPHILIS

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THE value of bismuth as an antiluetic agent can no longer be questioned. Its effectiveness in the treatment of syphilis in all stages has been proved repeatedly over a period of many years. Improvements in preparations and in methods of administration of bismuth will enable the physician to continue therapy longer, thus making the result more gratifying, both for the patient and the clinician. It is to be understood that in this discussion of bismuth (bismuth sodium tartrate, aqueous) its use is advised as a supplement to the accepted and established arsenical therapy.

The amount of *available* bismuth at each dose has been a subject of much investigation. The solubility of the compound is of much importance in intramuscular preparations (Harrington).

BISMUTH is excreted chiefly by the urinary tract, according to Levy and Selter. The comparative amounts excreted in the urine and stool are placed at six to one. There is some evidence that bismuth is stored in the body. This is shown by the fact that increased administration may not lead to greater excretion, but that the amount excreted tends to stay within definite limits.

Sollman and Seifter found that the percentage of bismuth in the organs paralleled the amount administered and decreased with the time interval after administration. The kidneys and lungs store bismuth more readily than the liver and spleen. The concentrations in these organs following intravenous administration were fifteen times those obtained by intramuscular injections of similar doses of water soluble bismuth compounds.

Hanzlik, in working with an oral bismuth, reported only 40 percent of the bismuth accounted for, the 60 percent being considered stored in the intestinal walls, kidneys, liver, blood, muscles and brain. The peak of excretion occurred on

the second and third days when a similar drug was used intramuscularly.

"General experience now indicates that the same principles which apply to arsenicals also hold for bismuth" (Hanzlik). If a rapid, high anti-syphilitic efficiency is to be achieved, the soluble, *available* compounds must be used.

Intravenous Administrations

Bismuth has been given almost universally by intramuscular route, the chief reason being the element of safety. Intravenous bismuth has long been considered too toxic. This has certainly not been found true in this series of over 1200 injections, given cautiously to over 100 patients over a period of seven years.

In this series, a three percent aqueous bismuth sodium tartrate was given intravenously. The dose at first was 1 cc., later increased to 2 cc. weekly. More recently it has been given twice weekly and was well tolerated.

Toxicity of Bismuth

Reactions to bismuth medication given by any route (orally, intramuscularly or intravenously) have been noted. Generally speaking, observers consider reactions, including albuminuria, rare. The reports of Grund, Schamberg and Wright, Harrington, Levadite and others on toxicity referred to the intramuscular route.

When symptoms are presented they may include salivation, loss of appetite, gastric distress, skin reaction, and aching of the teeth and jaws.

Idiosyncratic or allergic reactions to bismuth, though rare, are not unknown and may be manifested by skin reactions of various types. An occasional case of agranulocytic angina has also been reported. According to Stokes, Bismuth preparations must be used with caution in non-syphilitic hepatic disease. A hemorrhagic diathesis of any type is also thought to present a contraindication to intensive bismuth therapy. The administration of the drug should be stopped at the first sign of cutaneous irritation. Death has been reported (Magnus) following intravenous bismuth, as it has been reported from the use of other intravenous agents.

NOTE: Bismuth Sodium Tartrate, Aqueous (Searle) used in this work.

Treatment with a bismuth preparation is not injurious if the necessary precautions are taken. These include careful observation of the skin for untoward reactions, of the mouth for signs of beginning stomatitis, and of the urine for evidence of renal irritation. Strict attention to oral hygiene will go far toward lessening the incidence and severity of bismuth stomatitis.

Kolmer *et al.* and Kober reported that bismuth sodium tartrate (intramuscularly) was found to be least toxic of the five bismuth compounds tested experimentally on rats. These same investigators also reported that the alkaline tartrates were most effective in spirochetal destruction.

Sollman and Seifter found that the toxic effect of intravenous bismuth in rabbits and dogs was decreased by giving the solution slowly. The toxic effect was more than doubled when some preparations were given rapidly. Dividing the dose into equal portions and injecting slowly for five successive days did not further decrease toxicity in rabbits.

One of the chief complaints presented to the author during intravenous bismuth administration was aching of the jaws and teeth. This was often presented before leaving the office or within an hour following the treatment. This is usually transitory but if the pain persists in "one tooth," it is wise to advise a dental consultation for an unsuspected infection. Holding hot water in the mouth during and after the injection is helpful in overcoming this discomfort. Usually bismuth intravenously has been found to be less disagreeable to the patient than arsenic—"I wish you would give me that white medicine today . . . It doesn't upset me like the yellow kind that I can smell"—is a frequent request, especially since by intravenous administration, no painful lumps result in the muscle. Nausea occurs but rarely; vomiting was reported by a few patients.

Excretion

No evidence of kidney damage has been found by urinalysis to follow the use of intravenous bismuth sodium tartrate in this series. Urine examinations have been routinely run over a period of several years on these patients.

The question of elimination of bismuth is important as urinary excretion forms

the best method of judging the level of circulatory and presumably effective bismuth (Lucan). It has been estimated that in order to be of definite antisiphilitic value, bismuth therapy in man must produce a daily urinary output of from 3 to 5 mg. New and Non-official Remedies states that "the best spirocheticidal value will be reflected in the urine with a level of 0.002 gm. or more per day." Sollman reported the excretory level for various intramuscular preparations as follows:

	low	high	mean
Sobisminol Solution....	1.56 mg.	16. mg.	8.4 mg.
Bismuth and Pot.			
Tartrate in Oil.....			2.5 mg.
Bismuth Salicylate			
in Oil5 mg.

This was after the injection of 2 cc. of sobisminol every three days and a comparable amount of other bismuth preparations, giving intramuscular injections: 3 the first week, 2 the second week and one the third week. The peak was found for one bismuth preparation to occur after a rapid rise to 7 mg. at the second week. The curve descended gradually to about 2 mg. of bismuth at the end of the fourth week.

AFTER weekly injections of bismuth subsalicylate (0.13 gm.) alone, Sollman found that the curve of bismuth excretion rose slowly, reaching an average level of 1 mg. of bismuth a day at the end of the third week. Following weekly intramuscular injections of the larger dose (0.26 gm.) of bismuth subsalicylate, the urinary excretion of bismuth reached a daily level of 2 mg. by the end of the first week and approximately 3 mg. of bismuth by the third week.

Bismuth excretion tests run on the author's cases showed concentrations well above the 3 mg. daily required for therapeutic effect. A subsequent report is to be made correlating these excretion findings.

The work of Clausen, Longley and Tatum points out that the bismuth compounds ultimately act in a form common to all and not in the form of the compound in which they were injected. The observed differences of the many compounds tested and reported may be accounted for largely by the differences in the rate of absorption from the intramuscular deposits or available supply from intravenous doses.

Therapeutic results

Bismuth, however given, is considered a supplement to the arsenicals.

Prompt response has been reported following the administration of bismuth (intramuscularly) in both primary and secondary lesions. (Hanzlik, Harrington, Stokes, Schamberg and Wright.)

One of the author's cases voluntarily offered the information that the sore on her foot involving the bone improved much more quickly with the bismuth than with the arsenic.

An accurate interpretation of the serological response is difficult when treatment is associated with so many variable factors in a small group. Early and late cases, previously treated by undetermined dosages, at irregular intervals, were included in this series; the present treatment being also, of course, neoarsphenamine (later mapharsen) in alternate series; with a varying number of doses being given to each patient and other factors such as the degree of cooperation of the patient, moving out of town, and alternating circumstances beyond the physician's control, an ideal follow-up was prevented.

While bismuth has been administered chiefly as an adjunct in the treatment of syphilis, there are the following uses to be considered:

I. Syphilis

1. In the routine treatment of syphilis in alternate courses with arsenic.
2. As the chief form of therapy when arsenic is not tolerated or is contraindicated.
3. As the chief form of therapy when the patient is resistant to other forms of treatment. (Serum-fast.)

II. Other uses

A. Vincent's infection

1. Bismuth has been found to be effective in the treatment of the Vincent organism. The Vincent organism may be found in the mouth (teeth or throat) or about the genitalia.

B. Tonsillitis

1. Monteriso and Silcox have found bismuth effective in the treatment of tonsillitis, especially when the streptococcal infection is present.

C.

1. Bronchitis, especially post-influenzal, or due to spirochetes.

The advantages of the intravenous route are:

1. Availability of the metal. By the intramuscular route some deposits of bismuth are not absorbed and are left in the tissue, often being encapsulated. Because of this an indeterminate amount of bismuth is actually available and utilized — in some cases. Intravenously, the entire amount is available.
2. Lack of pain. It is a well known fact, especially in clinics, that some patients will not continue their treatments satisfactorily when they are accompanied by pain. A change of procedure which, while being safe, will at the same time encourage more consistent return (better case holding) should be considered. The intravenous route is available, using aqueous bismuth sodium tartrate, administered with a hypodermic needle (25 gauge or less), with no masses or lumps to annoy the patient.

The disadvantages of the intravenous route for bismuth:

1. "Too toxic" . . . The damaging effect on the kidney tissue is the main source of concern. In this series, however, using aqueous bismuth sodium tartrate, this has not been found to be true. No symptoms were presented and repeated urine examinations were negative for albumin during and after the series of injections had been completed.
2. Bismuth, by intravenous route, it is contended, does not give as sustained effect as by intramuscular injections. Then, by the same argument, why not give arsenic intramuscularly? The excretion tests will give important information here.
3. Care must be taken in selecting the cases for intravenous bismuth as the rapid or drastic therapy is to be strictly avoided in cardiac, vascular and certain cases of undetermined status of syphilis. Intravenous arsenic is to be avoided in the same cases. It is wise, therefore, on the same basis, to avoid intravenous bismuth.

Summary:

If an aqueous preparation which can be given, with caution, intravenously makes the metal more available, without pocket losses, with a greater attacking power on the spirochete and with less discomfort to the patient, it should be considered. Perhaps more frequent injections will be needed, just as it has been found to be advantageous to give mapharsen two, three or more times per week.

Over 1200 injections of aqueous bismuth sodium tartrate (3%) have been given intravenously over a period of seven years without evidence of harmful effects. The

patients have been watched carefully, questioned and examined for toxic signs and symptoms.

Repeated urine examinations during and following the therapy did not show any undesirable effects. Aching of the jaws was the most frequent complaint. Nausea was occasionally present; vomiting was rare.

The intravenous administration of aqueous bismuth sodium tartrate, if further studies continue to confirm its low toxicity, has the following advantages:

1. Availability of the drug.
2. It is less painful than intramuscular administration.

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Suite 402-404, Professional Building.



Steps Against Infantile Paralysis

A GREATLY enlarged program of preparations to combat epidemics of infantile paralysis that may occur this year has been launched by The National Foundation for Infantile Paralysis in co-operation with state and local health authorities in various parts of the nation. The National Foundation's 38 medical ad-

visers, men eminent in such fields as virology, orthopedics, pediatrics, epidemiology, physiology, neurology and public health not only consider applications for new grants and appropriations for advancing the Foundation's scientific research program but also advise the National Foundation in its preparations to meet epidemics and to care for the patients who are stricken.

JUVENILE CIRRHOSIS OF THE LIVER

with report of a case

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JUVENILE cirrhosis of the liver is by no means a new disease, and only the form seen in America and on the Continent can be considered as rare. First described by Sen in India in 1881, the condition has been discussed by many authors, most of whom at first wrote in India and Egypt where the disease is fairly common. As their descriptions appeared in the literature, other cases were gradually reported from the Continent and, in 1887, Howard reported the first recognized case in America. The incidence of the disease is fairly high in certain parts of India and in Egypt, but has remained extremely low in other parts of the world. This difference in incidence, together with the fact that the Eastern disease occurs in much younger children and has a much more acute course, has led to the belief that the Eastern disease is not the same as that found on the Continent and in America. Sen and Gibbons, in the early literature, thought these diseases were identical or very similar, and other pathologists seem to feel that a close similarity exists, most of them agreeing, however, that there is probably a dissimilarity in cause or origin.

As to incidence in Continental Europe and America, many sets of diverse statistics exist. Thus, Levy, Greenstein, and Leighton in surveying the literature found statistics such as these:

Incidence by Autopsy

	Cirrhosis of Liver	
	Autopsies	in Children
1. Mallory	2,016	11
2. Graham Forbes	15,500	40
3. Rolleston	16,100	12
4. Robertson	Unknown	36

YET Sutton, reviewing the literature for individual case reports, found but 36 reported cases of juvenile cirrhosis of the Western type. Subsequent case reports have now brought the number up to about 50 with approximately 20 of this number of the alcoholic type. The discrepancy between such statistics indicates, as Sutton has said, that not all the occurring cases of juvenile cirrhosis are reported, or that

the above table from autopsies includes a number of cases of adult forms of cirrhosis, classified as juvenile because of age incidence below 21. Moon, however, reported a total of 832 deaths from juvenile cirrhosis in America from 1920 to 1929 and estimated at least a yearly incidence of 64.

THE classification of cirrhosis is a complex and considerably confused one. The confusion is principally due to the fact that some of the clear and excellently presented classifications of the past have been disregarded and new ones set up, these in turn being disregarded by subsequent authors. All are agreed that in the adult disease there exists a true biliary and a true portal or vascular form of the disease. Juvenile cirrhosis can not be thus sharply classified, since the process is always a mixture of these two forms. It is true, however, that each case presents a domination of one group or another of symptoms, yet pathologically both forms of cirrhosis are present and the above classification can not apply except to distinguish the predominance of type of cirrhosis present.

The older classification of hypertrophic and atrophic cirrhosis has mostly disappeared in the literature for it is generally accepted that the atrophic form of cirrhosis is but a late stage of the other. Yet in juvenile cirrhosis, some authors still resort to the classification of hypertrophic and atrophic. This classification seems useless to the writer, since the rapid course of the disease does not allow the atrophic stage to develop before death from liver insufficiency occurs. Moreover, the much more vigorous response to growth stimuli in the juvenile causes a huge amount of fibrosis and brings about the huge liver enlargements seen in this disease in which the relative proportion of enlargement is so much greater than in the adult. Cases of seven or eight pound livers are comparatively frequent, and as compared to the ten and eleven pound "Munich beer drinker's liver"—the enlargement in the 12-year-old is, of course, vastly greater by proportion. Lastly, the classification of alcoholic and non-alcoholic cirrhosis is as futile in juvenile as it is in adult cirrhosis.

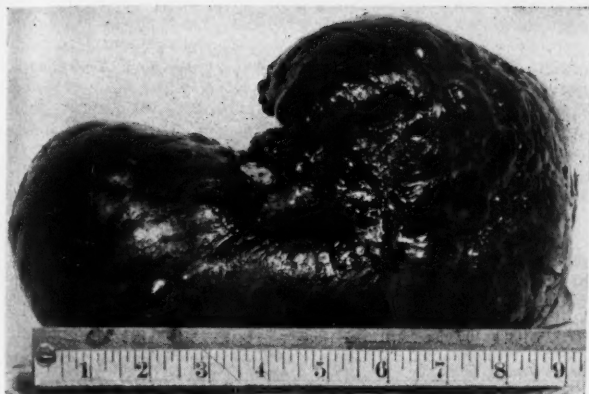


Fig. 1.

Superior aspect of juvenile cirrhosis of liver.

Alcohol has some unknown part in the production of certain cases of cirrhosis, yet the pathological picture and the symptom complex is essentially the same. Many other drugs have been tested as possible causes for the occurrence of cirrhosis. At least one, carbon tetrachloride, has been successful in producing the disease, yet we would not classify our cases as to the possibility of this drug having produced the disease.

THE simplest solution to the problem of classification of juvenile cirrhosis seems to the writer to be to accept this form of cirrhosis as an entity, then consider the cases as of biliary or portal perivascular preponderance, of atrophic or hypertrophic stage, and of alcoholic or non-alcoholic origin. This dispenses with the cumbersome classification; recognizes the disease as an entity with different forms, stages and origins.

This same problem of origin or etiology is as much a puzzle in juvenile cirrhosis as it is in the adult. This is especially true of the Eastern form. Here the disease occurs in infants even before the age of six months. The diet variations in these infants are naturally small, and it seems a relatively simple procedure to limit the few articles and thus discover the one at fault if diet plays a part. Water and its impurities have often been discussed as a possible cause in these cases, yet we can find no experiments to prove or disprove this suggestion. Utensils, traces of cop-

per in food, and impurities — all these have been theoretically discussed, yet no real investigation has been reported. It seems possible that in the Eastern form, because of the preponderance of biliary tissue overgrowth, that biliary stasis or an unknown form of biliary infection may be a large etiological factor in causing the disease in the youngest patients. Even in Eastern areas the relatively few cases

occurring make experimental work a difficult task except as undertaken on a large scale.

THE following case is reported because of the huge size of the liver as obtained at autopsy, the relatively short course of the disease, the occurrence in the Negro race, and because of the finding of *Amoeba coli* in the stool.

E. J., aged 13, colored female, was admitted on October 26, 1938, to my service at the Peninsula General Hospital. Her chief complaints were weakness and diarrhea. The diarrhea began five weeks previous to admission but had intermittently improved and become worse. Vomiting had occasionally accompanied the diarrhea. Gross blood had been present in small amounts in the stool. Weakness had been progressive, until the child fainted on the way to school and could not walk without help. Some dyspnea occurred on the last two days before admission.

The past medical history was negative except that the child had always been undernourished. There was no history of ingestion of alcohol, and the diet was the average diet of the farm Negro. Father, mother, four brothers and six sisters were living and well, although one sister has since developed tuberculous peritonitis and is gravely ill at the present writing. Menstruation had not begun.

PHYSICAL examination showed a very thin, undernourished, colored girl of 13 who was listless, dull and seriously ill. The T.P.R. was 99.4° F., 110, 24; and blood pressure on admission was 116/80.

The remainder of the physical examination was negative except for eyes and abdomen. The former showed a moderate degree of jaundice in the sclerae and the latter showed a huge mass in the upper abdomen, easily demonstrated to be liver, extending three inches beneath the costal margin on the right side. The spleen could not be demonstrated. The mass was smooth, not especially tender, and there was no rigidity.

The urine showed 4+ albumin, was positive for bile and showed many fine and coarse granular casts, hyaline casts, red cells and occasional white blood cells. It was negative for sugar. The blood count showed 90% Hgb, 4,920,000 RBC, 7,850

WBC, 73% polymorphonuclear cells, of which 53 were filament forms and 20 non-filament, 26% lymphocytes, and 1% monocytes. The blood urea was elevated to 93 mgm. per 100 cc.; a Kline slide test was negative for syphilis, later corroborated by Wassermann and Kahn. The stool showed many amoebae which were later identified as *Amoeba coli*. A Van den Bergh test showed an immediate direct reaction with an indirect of 4 mgms. per 100 cc. The icteric index was 40. A flat plate x-ray of the abdomen showed a huge liver shadow in the center of which appeared to be a circular mass. This was concluded to be a liver abscess.



Fig. 2
Inferior aspect of liver—
probe in hepatic duct.

BECAUSE of the history of bloody stools and diarrhea, the finding of amoebae in the stool, and an x-ray shadow suggestive of liver abscess, a diagnosis was made of *Endamoeba histolytica* infection with secondary liver abscess. Several other members of the staff were consulted and all agreed on this diagnosis.

Accordingly, the patient was given a course of emetine hydrochloride, gr. $\frac{1}{2}$,



Fig. 3
Lateral view of liver.

hypodermically twice a day for 16 days. This at first seemed to produce some improvement, but while the diarrhea ceased with adjuvant treatment, the liver did not shrink in size. Diet was limited and supplemented by intravenous glucose solution. She remained dull and drowsy. The blood urea dropped to 46 mgms. per 100 cc., and the urine improved somewhat, though it continued to contain bile. The temperature, at first varying from 100° to 98° F. each day, dropped to 97 and remained below normal for ten days.

Since no further improvement seemed to occur at the end of sixteen days treatment, it was felt that the liver abscess must be the cause of her continued debility and the liver was at first needed. No pus could be discovered, and the abdomen was then explored on November 29, 1938—more than a month after admission to the hospital. At operation, which was done through a short upper right rectus incision, the gallbladder, stomach and intestines were found normal. The gallbladder emptied easily on slight pressure. The liver was hugely enlarged and the surface covered by loops of capillary blood vessels. A moderate amount of clear straw colored fluid was present in the abdomen. The liver lesion was not grossly diagnosed as cirrhosis. A biopsy was taken from the lower edge of the liver. There was much free bleeding, which was checked by suture and cautery. The abdomen was closed without drainage. No attempt at omentopexy was made, since the omentum was small and frail, and the amount of fluid present was not so excessive that ascites as such could be seriously considered. No abscess could be demonstrated in the liver or above it.

The patient had a rather stormy convalescence, although the wound healed readily and completely. The urine became worse and the blood urea rose to 64 mgms. per 10 cc. The biopsy specimen was examined by Dr. Albert Bothe of Philadelphia and diagnosed as juvenile cirrhosis. The patient was finally discharged from the hospital on December 23, 1938, with some improvement over her condition on admission, with normal temperature and no diarrhea or vomiting.

THE patient followed a gradually downward course after discharge from the hospital and died on January 22, 1939. The following is a copy of the postmortem report:

E. J., aged 13, height 5 feet 3 inches, weight 70 pounds. The body is that of a young colored girl who was extremely emaciated. The abdomen was very distended and there was a well healed scar of an incision in the upper, right abdomen. The usual postmortem incision revealed a considerable quantity of straw colored fluid in the abdomen and a few adhesions of the omentum to the incision and to the liver. The liver was greatly enlarged, weighing ten pounds and four ounces, and measuring $9\frac{1}{2} \times 7 \times 5\frac{1}{2}$ inches. Its surface was studded with numerous small and large nodules, and many gross striae of connective tissue were visible between the nodules. The gallbladder was collapsed and atrophic. There was no bile in the lower biliary ducts. The biliary ducts were carefully dissected and no point of obstruction or stenosis could be determined in the entire system. The portal vein was somewhat narrowed as it entered the liver, but there was not a complete obstruction. The stomach and first portion of the duodenum were adherent to the under surface of the liver, but were otherwise apparently normal. The spleen was of normal size—measuring $5 \times 3\frac{1}{2} \times 1\frac{1}{2}$ inches and weighing 6 ounces. Its surface showed considerable thickening of the capsule but was otherwise normal. The kidneys were normal in position but showed considerable swelling and congestion. The lungs showed great density and congestion in both lower lobes. The heart was normal in size, shape and position. The valves were entirely normal, and there were no heart lesions of any type. The genital organs were entirely rudimentary and undeveloped.

MICROSCOPIC sections of the organs revealed the following diagnosis:

1. Spleen measured $12 \times 8 \times 3$ cm. after fixation. Splenic tissue has been largely replaced by fibrosis with occasional typical germinal centers, but most of the latter have been encroached upon by fibrosis; there is a considerable number of red blood cells present, but even the sinuses have been largely obliterated.

2. Lung tissue shows marked congestion with exudation into air spaces and air sacs.

3. Kidneys show marked albuminous degeneration with considerable sclerosis in glomeruli.

4. Liver—juvenile cirrhosis of liver with

typical interlobular extensions of fibrous tissue, infiltration about veins and ducts, regeneration and degeneration.

Conclusion

THIS case illustrates juvenile cirrhosis of the liver in a thirteen year old colored female, associated with *Amoeba coli* in the stool, with rapid course and of a predominant biliary type with non-alcoholic history. A liver of 10 pounds 4 ounces was removed from a child weighing but 70 pounds at autopsy.

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- 112 WEST MAIN STREET.



Blue Cross Membership In New York Area

ACCCELERATION of enrollments in Associated Hospital Service, New York's Blue Cross plan, continued in the first quarter of 1944, according to Louis H. Pink, president. Net increase for the period was 86,250 new members, almost 75 per cent of the yearly total of 113,424 reported for 1943. In the seventeen counties of lower New York State served by Associated, 1,528,801 persons are now protected by Blue Cross membership.

New York's was the second largest increase reported by all Blue Cross Plans in a quarter which set a new record also for total increase in the United States and Canada. The largest increase occurred in the Massachusetts plan, which is state wide. In the country as a whole, an additional 793,503 employed persons and their dependents enrolled during the first three months of this year, bringing the total membership of all 77 plans to 13,798,996 persons, exclusive of about 600,000 contracts suspended by members of the armed forces until their return to civil life.

Machines Provide Ice for Naval Surgery in Tropics

REFRIGERATION anesthesia, a revolutionary technique in surgery that is bloodless and shockless, is being used successfully on the battlefield by units of the Navy's Medical Department

attached to Construction Battalion detachments in the South Pacific. This was revealed when medical officers recently returned from that area listed the new method among the various medical uses of flake ice in the tropics.

The flake ice required for anesthesia, known also as "cold surgery" and as "protoplasm anesthesia," is made instantly available, at the flick of a switch, by ice making machines. Because the machines, called "FlakIce," are self-contained, portable and are capable of producing ice within sixty seconds after being connected into the existing power source, they have proved especially suitable to the wartime needs of Seabee detachments in isolated island outposts. Utilizing stored water or any available local supply, the ice makers can produce a ton of flake ice every twenty-four hours. At least one such machine is allotted to every 250 Seabees.

Baruch Committee on Physical Medicine

AFTER a scientific exploration of the possibilities of the subject, with special reference to its value in the rehabilitation of the wounded and ill men discharged from the Armies—casualties of the war—Bernard M. Baruch on April 27 gave the sum of \$1,100,000 to be used for the teaching of and research in physical medicine. An Administrative Board, under the Chairmanship of Dr. Ray Lyman Wilbur, Chancellor of Stanford University, has been established to inaugurate the program.

SPECIAL ARTICLE

PENICILLIN The Record and the Men



St. Mary's Hospital, London, in 1929. A spot of the mold blew into a culture dish in which he was growing a culture of staphylococcus variants and this led to the discovery. But for many years, although the substance, now called penicillin, was known to exist, it could not be separated from the other elements of the medium containing it. In 1940, after two years work, Professor Florey, Dr. Chain and the team of scientists at the Sir William Dunn School of Pathology, Oxford, succeeded in

R. MCNAIR WILSON, in his *British Medicine* (London, Collins, 1941), remarks that other nations have often spoken of English medicine as "essentially clinical," meaning thereby that it is lacking in that kind of strength which resides in laboratories and is based upon experiments far removed from the rough and tumble of the treatment of the sick.

With the advent of penicillin we shall not hear any more about British lack of strength in the non-clinical sphere.

Wilson insists that "The English, contrary to general belief, are the most scientifically minded of all peoples, and so careful and exact in their observation that medical progress owes more to them than to any other race of mankind." Well, after penicillin, we are in no mood to debate this forthright declaration.

THE fact that the mold *Penicillium notatum* exudes an anti-bacterial substance into the medium on which it grows was first noticed by Professor Fleming, of

The man who first saw the possibilities of penicillin, Professor Fleming. At St. Mary's Hospital, London, he still sits in his laboratory, experimenting with the drug produced from the mold that chance blew into one of his culture dishes fourteen years ago. He still is helping to discover what that drug can do to bacteria.

isolating penicillin in a pure form, tried it in the laboratory and in the hospital proved that Professor Fleming's beliefs had been correct — that penicillin was a non-poisonous substance, but was deadly to many bacteria.

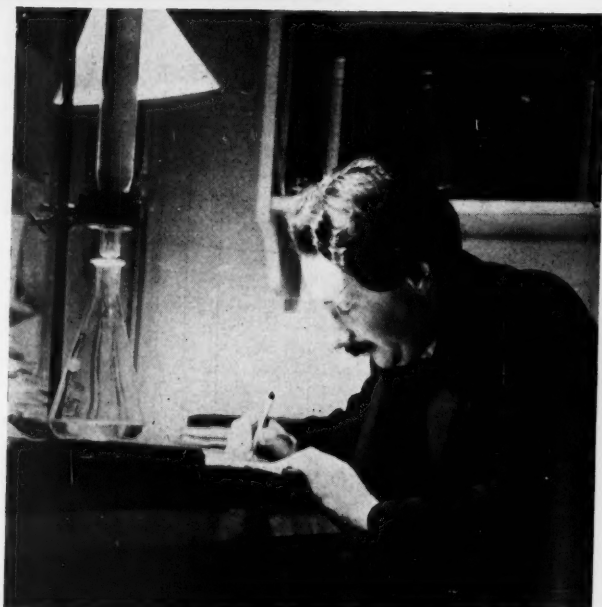
So far there is no way of making penicillin synthetically. All supplies are produced from the natural mould and enormous amounts have to be grown. British and American manufacturing chemists have tackled the problem and are now producing penicillin in quantity. There are twenty organizations in the United States and Canada turning it out.

British official photographs.



Professor Florey of the Sir William Dunn School of Pathology, Oxford, is an Australian. When his work on penicillin began in 1938, the substance was known to exist, but had never been isolated from the fluid that contained it. In the laboratories under his control, penicillin was first shown to be capable of curing human diseases.

Dr. Chain, whose earlier work helped to isolate penicillin, is now tackling the synthesis problem.



PROFESSOR FLEMING and some colleagues experimented with the substance for some time, and later a laboratory, where chemical work on moulds had been going on, tried to isolate penicillin. In 1932 it was stated that penicillin was "labile," and on account of this instability the substance was not isolated.

Professor Florey, of the Sir William Dunn School of Pathology, Oxford, had been working since 1930 on another antibacterial agent, lysozyme, which is found amongst other places, in egg-white and some of the body fluids. Dr. Chain joined him for the biochemical part of this work and in 1938 they decided to extend their investigation and make as complete a survey as possible of anti-bac-

Dr. E. P. Abraham of the School of Pathology, who helped to isolate penicillin, is also tackling the synthesis problem.

terial substances produced by bacteria and moulds. Many such substances were known to exist, though few had been examined in detail. Penicillin, whose potentialities especially impressed them, was among the first chosen. Although it was said to be labile, Professor Fleming had described how the penicillin-containing broth kept its potency for several weeks in the ice-chest, and therefore Dr. Chain and Professor Florey decided to renew the attempt to extract the active substance.



BY 1940 a team at the Sir William Dunn School had succeeded in isolating the drug and had given it a preliminary trial. The results were brilliant. Fleming had already noted that in its crude state penicillin was able to prevent the growth of cultures of the bacteria that caused "blood poisoning," meningitis, pneumonia and a host of other diseases, and these observations were extended at Oxford by



Professor Sir Robert Robinson has linked up with Drs. Chain and Abraham to tackle the synthesis problem. Trained at Manchester University, Sir Robert has been Waynflete Professor of Chemistry at Oxford since 1930 and on the Privy Council Committee for Scientific and Industrial Research since 1940.



At Oxford as well scientists are attempting to make penicillin synthetically. Dr. Wilson Baker is seen in the laboratory. The problem was first to break down penicillin into its separate elements. This has been accomplished. It remains to build up the structure again, to discover the way in which the elements were put together by Nature.

experiments on animals and human patients. Moreover, these clinical trials proved that penicillin continued to act in the

which blood poisoning (staphylococcal and streptococcal), cerebrospinal meningitis, osteomyelitis and sulfonamide-resistant

At the Imperial College of Science, London, Professor I. M. Heilbron (foreground) and Dr. A. H. Cook are also at work on the problem of synthesis. Professor Heilbron was formerly Professor of Organic Chemistry at Manchester University and won an international reputation for his work on Vitamin A. "We know the simple fragments," says Dr. Cook, "how many windows, how many doors penicillin has. Now we are trying to put them together, but we are working without the Architect's plan. The substances we produce go for trial, but so far there has been a window or a door in the wrong place. So we try again; we feel that we are on the verge."



gonorrhea are a few examples; and there is no longer any doubt that a brilliant future lies before it. But it should be emphasized that penicillin is not a cure-all, since a considerable number of important microbes are not affected by it.

IN the critical situation that Britain was in at that time, Professor Florey believed that to produce quantities rapidly it was necessary to get help from the United States. He went to see Dr. Coghill, at the State Agricultural Research Institute, Peoria, who is a specialist on mould fermentation. Dr. Coghill discovered a medium on which the mold *Penicillium notatum* could be grown so as to produce the drug penicillin in greatly increased yield. Professor Florey also interested a number of American manufacturing chemists, who undertook to produce the drug from the natural mold, as did a number of manufacturing chemists in Britain.

It is interesting to note that almost all the penicillin now being produced comes from a descendant of the same spot that dropped into the plate in Professor Fleming's laboratory.

BUT although penicillin could now be made available for research and for saving the lives of men wounded on the battle-field, the scientists' work had just begun. To produce enough to treat even a small proportion of civilian cases it would be desirable to be able to make it synthetically. Two teams of scientists in Britain started work, Dr. Chain and Dr. Abraham of the School of Pathology at Oxford linked up with Sir Robert Robinson and Dr. Baker, at the Dyson Perrins Laboratory, Oxford. A few months later, another team in London led by Professor I. M. Heilbron and Dr. R. H. Cook of the Imperial College of Science and Technology tackled the problem; work was also undertaken in the research laboratories of pharmaceutical firms. The problem was to break down penicillin into its chemical components, then discover how to build it up again in the laboratory. The first part of this program has been successfully completed, and mainly as the result of the work at Oxford all the degradation products have been isolated and identified. The way is wide open to attempted synthesis and though this problem is one of extreme difficulty the search continues with every hope of success.

CLINICAL USE OF PENICILLIN

INDICATIONS

CONTRAINDICATIONS

MODE OF ADMINISTRATION

DOSAGE

THE following report on the use of the sodium salt of penicillin in medical and surgical practice has been prepared by Dr. Chester S. Keefer, Chairman of the committee on Chemotherapy of the National Research Council and Consultant to the Office of Scientific Research and Development. It is based upon the carefully controlled study of over three thousand cases and should be an indispensable guide now that the War Production Board, through the Office of Civilian Penicillin Distribution, has released this agent to approved hospital depots for further controlled use.

Based upon the experience gained in the past year with penicillin therapy, it has been found that penicillin is the best therapeutic agent available for the treatment of certain conditions, as follows:

Group I Indications

1. All *staphylococcal* infections with and without bacteremia:
 - Acute osteomyelitis
 - Carbuncles—soft tissue abscesses
 - Meningitis
 - Cavernous or lateral sinus thrombosis
 - Pneumonia—empyema
 - Carbuncle of kidney
 - Wound infections

2. All cases of *clostridia* infections:

- Gas gangrene
- Malignant edema

3. All *hemolytic streptococci* infections with bacteremia and all serious local infections:

- Cellulitis
- Mastoiditis with intracranial complications, i.e., meningitis, sinus thrombosis, etc.
- Pneumonia and empyema
- Puerperal sepsis
- Peritonitis

4. All *anaerobic streptococci* infections:

- Puerperal sepsis

5. All *Pneumococci* infections of

- Meninges
- Pleura
- Endocardium

All cases of sulfonamide-resistant pneumococci pneumonia

6. All *gonococci* infections complicated by

- Arthritis
- Ophthalmia
- Endocarditis
- Peritonitis
- Epididymitis

Also all cases of sulfonamide-resistant gonorrhea

Indications in Group II

Penicillin has also been found to be an effective agent in the following diseases but its position has not been definitely defined:

1. Syphilis
2. Actinomycosis
3. Bacterial endocarditis

Conditions in Group III of questionable value

Penicillin is of questionable value in mixed infections of the peritoneum and liver in which the predominating organism is of the gram-negative flora—i.e.:

1. Ruptured appendix
2. Liver abscesses
3. Urinary tract infections
4. It is also of questionable value in rat bite fever due to strepto-bacillus moniliformis

Group IV conditions contraindicated

Penicillin is *contraindicated* in the following cases because it is ineffective:

1 All *gram-negative bacillary* infections:

- Typhoid—Paratyphoid
- Dysentery
- E. Coli
- H. Influenzae
- B. Proteus
- B. Pyocyaneus
- Br. melitensis (undulant fever)
- Tularemia
- B. Friedlander

2. Tuberculosis
3. Toxoplasmosis
4. Histoplasmosis
5. Acute rheumatic fever
6. Lupus erythematosus
7. Infectious Mononucleosis
8. Pemphigus
9. Hodgkin's disease
10. Acute and chronic leukemia
11. Ulcerative colitis
12. Cocciidiomycosis
13. Malaria

14. Poliomyelitis
15. Blastomycosis
16. Non-specific iritis and uveitis
17. Monilliasis
18. Virus infections
19. Cancer

Treatment of Infections with Penicillin

The recommendations put forth in the report, based on the wide experience gained under varied conditions of use and purpose, follow:

Method of preparing penicillin for treatment

Penicillin is supplied to civilians at present in ampoules and vials of approximately 100,000 units each. Inasmuch as penicillin is extremely soluble, it may be dissolved in small amounts of sterile, distilled, pyrogen-free water, or in sterile, normal saline solution. When large unit sizes are being used in hospital, the contents of the ampoule should be dissolved in water or saline so that the final concentration is 5,000 units per cc. This solution should be stored under aseptic precautions in the ice box, and made up freshly every day. Solutions for local or parenteral use may be diluted further, depending upon the concentration desired.

A. For intravenous injection

1. The dry powder may be dissolved in sterile physiological salt solution in concentrations of 1,000-5,000 units per cc. for direct injection through a syringe.

2. The dry powder may be dissolved in sterile saline or 5 per cent glucose solution in lower dilution (25-50 units per cc.) for constant intravenous therapy.

B. For intramuscular injection

1. The total volume of individual injections should be small, i.e., 5,000 units per cc. of physiological saline.

C. For topical application

1. The powdered form of the sodium salt is irritating to wound surfaces and should not be used.

2. Solutions in physiological salt solution with a concentration of 250 units per cc. are satisfactory. For resistant or more intense infections this concentration may be increased to 500 units per cc.

Methods of administration of penicillin

There are three common methods of administering penicillin—intravenous, intramuscular and topical. Subcutaneous injections are likely to be painful and should be avoided.

Repeated intramuscular injections may be tolerated less well than repeated or constant intravenous injections. In many cases, however, the intramuscular route may be the one of choice.

In the treatment of *meningitis*, *empyema*, and *surface burns of limited extent*,

penicillin should be used topically, that is, injected directly into the subarachnoid space, into the pleural cavity, or applied locally in solution containing 250 units per cc.

Dosage

The dosage of penicillin will vary from one patient to another depending on the type and severity of infection. Recovery has followed in many serious infections following 40,000 to 50,000 Oxford units a day; in others 100,000 to 120,000 or even more is necessary. The objective in every case is to bring the infection under control as quickly as possible. The following recommendations are made at the present time with a full realization that revisions may be necessary as experience accumulates.

It is well to remember that penicillin is excreted rapidly in the urine so that following a single injection it is often impossible to detect it in the blood for a period longer than 2 to 4 hours. It is well, therefore, to use repeated intramuscular or intravenous injections every 3 or 4 hours, or to administer it as a continuous infusion.

A. *In serious infections with or without bacteremia* an initial dose of 15,000 to 20,000 Oxford units with continuing dosage as:

1. Constant intravenous injection of normal saline solution containing penicillin so that 2,000 to 5,000 Oxford units are delivered every hour, making a total of 48,000 to 120,000 units in a 24-hour period. One half the total daily dose may be dissolved in a liter of normal saline solution and allowed to drip at the rate of 30 to 40 drops per minute.

2. If continuous intravenous drip is undesirable, then 10,000 to 20,000 units may be injected intramuscularly every 3 or 4 hours.

3. After the temperature has returned to normal the penicillin may be stopped and the course of the disease followed carefully.

B. *In chronically infected compound injuries, osteomyelitis, etc.*, the dosage schedule should be 5,000 units every two hours or 10,000 units every four hours parenterally with local treatment as indicated. This

dosage schedule may have to be increased, depending upon the seriousness of the infection, and response to treatment.

C. Sulfonamide-resistant gonorrhea

1. 10,000 units every 3 hours intramuscularly or intravenously for 10 doses. It is not likely that the same effect may be obtained with 20,000 units every 3 hours for 5 doses. The minimum dosage has not been worked out completely. The results of treatment should be controlled by culture of exudate.

D. Empyema

1. Penicillin in normal physiological saline solution should be injected directly into the empyema cavity after aspiration of pus or fluid. This should be done once or twice daily, using 30,000 or 40,000 units depending upon the size of the cavity, type of infection and number of organisms. Penicillin solutions should not be used for irrigation. It requires at least 6 to 8 hours for a maximum effect of penicillin.

E. Meningitis

1. Penicillin does not penetrate the subarachnoid space in appreciable amounts, so that it is necessary to inject penicillin into the subarachnoid space or intracisternally in order to produce the desired effect. Ten thousand units diluted in physiological saline solution in a concentration of 1,000 units per cc. should be injected once or twice daily, depending upon the clinical course and the presence of organisms.

Conclusion

The Office of Civilian Penicillin Distribution, War Production Board, requests medical practitioners employing penicillin to carefully observe the recommendations stated above as to indications, contraindications, mode of administration and dosage in order to gain the maximum value and advantage from this new medicinal agent.



Twelve Internships at the Hospital for Joint Diseases

FOUR interns to begin October 1, 1944; eight interns to begin July 1, 1945.

The Hospital provides maintenance, uniforms, and a stipend of \$25.00 a month.

The Hospital is approved by the Amer-

ican Medical Association for general internships and residencies, and by the American College of Surgeons as meeting its standards.

Applications should be addressed to: Director Hospital for Joint Diseases, 1919 Madison Avenue, New York 35, N. Y.

MILITARY MEDICINE AND SURGERY

WAR DEPARTMENT FACT SHEET

RECONDITIONING AND REHABILITATION OF UNITED STATES SOLDIERS

1. RECONDITIONING is an Army term used to describe the process for restoring physical and mental health and efficiency to soldiers following hospitalization for diseases, wounds, or injuries. In other words, the gap between a sick soldier and a well soldier again on duty with his unit is being bridged by the Army Reconditioning Program.

Explanation: The Army has a great responsibility to the soldier who has been rendered temporarily unable to continue doing his part toward winning the war. If all wounded men were discharged, the Army's fighting efficiency would be gravely impaired through loss of many of its most experienced men.

Comment: Said Maj. Gen. Norman T. Kirk, Surgeon General, "The Army has not granted disability discharges to any men who could be used effectively in the military prosecution of this war."

Example: Reconditioned wounded are returned to different duties in the Army where they can be most useful, both overseas and in this country. For instance, an aerial engineer may no longer be fit for combat, but he may be useful on ground duty overseas or may be an instructor or inspector in one of the Army depots.

2. The Army Reconditioning Program is concerned with two major undertakings:

One, to restore the wounded soldier to mental and physical health and efficiency so that he may return to duty.

Two, to recondition and to further rehabilitate through a special rehabilitation program the deaf, blind, amputees, or mental cases so that they are reoriented to their new situation, which usually precludes return to service, and so that by the time they are discharged they will have made the necessary adjustments for carrying on as near normally as possible.

The purposes of reconditioning are:

Chiefly, to return men to duty:

Figures: Out of the 45,545 wounded among Army battle casualties reported through February 7, 1944, more than one

half, or 24,289, have returned to duty.

Next, to return men to duty in better mental and physical condition following hospitalization in the shortest possible time:

Facts: Hospitals that have carried out intensive reconditioning have found that the period of convalescence has been shortened in certain cases of acute infections and contagious diseases. Readmissions to the hospital have been reduced. The necessity for sick leave has been largely eliminated. Morale and fighting spirit has been improved.

Note: An important phase of the reconditioning program is putting the wounded soldier in the proper frame of mind to return to action, if his disabilities permit, or at least to remain in service.

To make constructive use of the time during which a soldier is confined to the hospital and through educational pursuits to bring about a greater realization in the soldier of his personal importance in the war and to produce a more informed soldier.

In the event that disability precludes return to active duty, to restore soldiers to a condition in which they can again become active, useful, wage-earning members of society.

Progress: The problem of fitness to "pull one's weight" is being dealt with, it is claimed, much more expertly now than in the last war. Experience gained during the past several years has added greatly to medical knowledge of individual needs and how to cater to them effectively. In extreme cases of disfigurement, for example, as much importance is attached to morale-building as to the miracles which plastic surgery can now perform.

3. A program for reconditioning soldiers for further military service was instituted by the United States Army in Army hospitals during the last war. Early in 1942 the United States Army Air Forces and the Ground Forces developed

simultaneously a reconditioning program for hospitalized soldiers overseas. Also, in 1942 a program was begun in this country in Army Air Forces hospitals, followed by a similar program in other Army hospitals.

Note: It should be understood that the reconditioning activities of the United States Air Forces and the other branches of the U. S. Army have the same objectives and are organized on the same basic principles.

Fact: The program of the Army Air Forces is known as the *Convalescent Training Program* and has been established in the 250 Army Air Corps hospitals in continental United States. In addition, convalescent centers have been established for soldiers whose disabilities do not require major surgical attention.

4. A United States Army reconditioning program is carried out in almost every theater of operations. Reconditioning is particularly well advanced in the European Theater where there are 7 large centers.

Which patients are kept overseas?

The soldiers who are kept overseas are those who may be returned to duty in from approximately 4 to 6 months.

Comment: "American soldiers love action," explains the Surgeon General's Office, "and the average wounded soldier is so anxious to get well and rejoin his outfit that he would overtax his strength on the day of his release from a hospital if he were not in combat condition. By our reconditioning program we hope to release each soldier in an overseas hospital in condition to return to his unit on a full-day status, no matter what his duty may be."

5. The reconditioning program for soldiers returned to this country begins in a general sense when they are evacuated from overseas. The attention of flight surgeons, Army doctors, and nurses is concentrated on the quick mental and physical recovery of the wounded as soon as they board evacuation planes, ships, or trains, and their help and advice are important factors in maintaining good morale among the patients. Wounded evacuated to this country fall into two classes.

1. Those unfit for further military service. They include, but are not limited to, amputees, blind, deaf, and psy-

choneurotics. Segregation of these patients in hospital wards is desirable during convalescence, apart from others being reconditioned for return to duty. Doubtful cases, i.e., those not yet classified as unfit, should be included in the regular reconditioning program.

2. Those who can be returned to service, but whose convalescence requires a longer period than the maximum established by the theater commander for the general hospitals in his theater of operations. Each patient is eventually sent to the Army general hospital in the United States nearest his home which specializes in the type of casualty suffered by the patient, since being near his home boosts the soldier's morale.

6. The Surgeon General's Office is working rapidly through its Reconditioning Division on the establishment of reconditioning units in all Army hospitals throughout the United States. The general plan is to operate these units as detached sections of general or station hospitals, so that as soon as a hospital patient is capable of the more active phases of reconditioning, he can get away from the hospital atmosphere.

Organization:

There are now 40 general Army hospitals in the U. S. in which reconditioning units are functioning. Certain other hospitals are designated for the special care and rehabilitation of the deaf, blind, amputees, and mental cases.

The reconditioning program is carried out under the direction of the Commanding Officer of the hospital and the appointed reconditioning officer. These 2 officers are assisted by one medical administrative officer and one physical education director for each 100 men.

Personnel:

Great importance is attached to the selection of officers to supervise this work and each commanding officer is directed to place the reconditioning program in charge of an individual with experience in physical education and with a commanding personality.

7. The Reconditioning Program in the Army consists of the use for wounded soldiers of planned, progressive courses under careful medical supervision, in three main categories—physical fitness, education, and recreation. These courses follow the regular prescribed medical treat-

ment which, in the case of most wounded men, includes physical therapy and occupational therapy.

8. Physical therapy and occupational therapy, which are an integral part of medical treatment, often merge with the physical fitness, or first part, of the reconditioning program. They take up where surgery leaves off, and play an important role in the wounded soldier's adjustment to the use of artificial arms and legs.

Physical therapy

Purpose: Physical therapy is used largely in the treatment of orthopedic cases since 75 per cent of all war wounds are of this nature. This percentage includes amputations, which make up a considerable part of the total. Physical therapy is also used a great deal in the treatment of burns, where it plays a part in healing of tissues and elimination of scars.

Explanation: Amputees particularly need physical therapy through which the surgeons seek to preserve everything they can of the injured nerves, tissues, and muscles which remain after the first emergency operation which usually takes place overseas. Repair of peripheral nerves, healing of tissues and restoration of muscle tone are all important in the long process of regeneration of an injured member prior to additional surgery. It is necessary to keep the stump at all times in the best physiological condition to speed eventual recovery.

Treatment: Treatment in physical therapy consists of various phases:

Preliminary steps: The whirlpool bath of air, heat, and water is used for open wounds and acts as a stimulating agent at the same time that it cleans out the injury.

Ultra-violet ray treatment is used to both sterilize and heal the wound. At this time bandaging of a wounded member is continued for the purpose of shaping the stump. Also exercises are started, and some medication given.

Massage is next utilized after healing for stimulation of circulation. The patient may exercise by himself at this stage, for instance, if he has the use of his knee and has a stump that is sufficiently healed. Where the knee is not

functioning, nurses give special knee exercises to regain its use.

Exercises and Electrotherapy: Exercises are of a wide variety, depending on the nature of the injury. Pulleys, for instance, are used to develop resistance which results in development of knee, arm joints, etc.; finger ladders are used to help limber up the hand; etc.

Electrotherapy and diathermy are both used, largely for the relief of pain. Interrupted galvanic current, for instance, provides stimulation for weak muscles and restores their use, while a sedative galvanic current relieves pain. Short wave heat, which is very even, deep heat, mostly relieves pain.

Walking classes: Walking classes are an important step in teaching soldiers, who have been fitted with an artificial leg, to walk. They must become accustomed to the leg, gain a sense of balance, and be able to use muscles properly in order to use the leg properly. The feeling of shyness and aloneness which many amputees experience is eliminated by group exercising of this nature.

Note: At all times during the various phases of physical therapy an effort is made to keep up the patient's interest in his progress and his morale at a high level. Psychological and emotional aspects of his case are carefully watched and treated by staff psychiatrists.

Occupational therapy

Occupational therapy is use of mental or physical work activity (as distinct from mere diversional activity) prescribed as a form of treatment to meet the particular needs of a sick or injured patient. The basis of occupational therapy is treatment and exercise with a sugar-coated pill of interest.

Explanation: Occupational therapy is particularly useful for those with extremity or other orthopedic injuries, but it is helpful in general surgical cases, including burns, in prolonged convalescence in chronic diseases, and for all patients in the convalescent stage. Constructive activities in occupational therapy release tensions, stimulate interests, and satisfy actual needs of neuropsychiatric patients. The blind and deaf learn to develop new skills and confidence in other senses, while the

bedridden gain new hope as a result of being able to do or make something useful.

Orthopedic cases: Physically injured soldiers, particularly those with injuries to the spine or joints or extremities, can be more promptly returned to duty if physical therapy is followed by occupational therapy, or if physical therapy and occupational therapy are used at the same time.

While massage and exercise can be continued only a short time to a stiff shoulder, some work activity such as sawing wood or using a plane, coupled with the growth of a personal interest in what is being made, can extend the exercise to more normal activity. The patient thus bridges the psychological barrier that might cause him to favor his wound or aggravate its effects. Best of all, he has reached the stage where he can help himself.

Progress: In occupational therapy today, normal activities are gradually taking the place of minor crafts which don't hold prolonged interest. These normal occupations have proved better for bed patients. Small parts, for instance, may be brought in from an airplane factory for assembly by the patients.

Later, they can hang up or lift down meats from storage room hooks, do dusting in high places, or help out in administrative offices if exercises of that nature have been prescribed.

Work Program: Diagnosis of a specific case is given by a medical officer to the occupational therapist who decides what procedure is best.

Skills and techniques are used as exercise to meet the physical needs of the individual patient. Schedules of work, based on requirements of the more elementary manual arts and skills and graded progressively upward, may be used to determine aptitudes and to establish work habits.

Different kinds of manual arts and skills: These include: *Weaving*, which is a "lighter craft" at the beginning stages of it, and is adaptable for all motions except that of the ankle. It is used by patients first out of bed, as they receive encouragement from the quick results obtained; *carpentry*, which is classed as a "medium craft," i.e., not

too heavy for injured men to engage in. Carpentry appeals to men and is well suited to orthopedic cases, since it is the most adaptable of all of the crafts for all motions; *leather work, cord knotting, pottery making, wood carving, typing, and use of printing press* are all in the class of work which can be taught easily to persons without any previous training in the work; and *playing games, such as checkers on a specially designed set, using hand tools, learning to write, or developing any fine, small skills*, which are all methods by which men who have lost hands or arms develop the use of the remaining hand or arm. as well as the artificial one.

9. The progressive nature of the reconditioning plan is greatly stressed, and to insure it, all patients are placed in four different classes as they recover and regain their strength. Each class follows a daily schedule of activity which approaches, but never exceeds, the individual patient's tolerance.

The assignment of each wounded soldier to his proper class, and the speed with which he graduates into the next class, is determined by a Medical Officer in consultation with the officer in charge of the Reconditioning Section. The Reconditioning program starts simultaneously with convalescence, often 48 to 72 hours after an operation.

The Four Classifications: *Class 4* consists of those patients considered convalescent but still bed cases or confined to the ward. *Class 3* consists of ambulant hospital patients still receiving treatment which is paramount. *Class 2* is composed of those capable of 6 hours of physical training. *Class 1* comprises that group nearest the point of recovery and capable of 8 hours of physical training.

10. **Physical Aspects of the Program:** Simple humanitarian considerations, as well as military necessity, demand that wounded soldiers be made as fit as possible, according to the nature of their disabilities. On this general theory a carefully graded series of activities from exercises to the final drills and tests of military training has been planned. Group exercises have been designed for the reconditioning program which will give every soldier a chance to participate, regardless of the nature of his injury. It has been found that conditioning of the

whole body brings about quicker healing of broken bones and other injuries.

Example: A soldier with an injured leg, for instance, will be able, through these exercises, to keep the rest of his body in peak physical condition, to improve his mental outlook, and to shorten his stay in the hospital by helping about quicker healing of his leg.

Class 4 and Class 3: These bed and ambulant patients are capable of limited exercise only. The greatest emphasis, therefore, is on the educational and recreational programs at this time. Graded group exercises are given to these patients either in bed or outdoors, depending on their physical condition.

Plenty of writing or studying on hospital grounds in the sun is encouraged, as well as the playing of supervised outdoor games. Equipment for ping-pong, table games, playing catch, horse-shoes, etc., may be supplied by the Red Cross.

Examples: Under the direction of wardmasters of the Camp Crowder, Missouri, Reconditioning School, a special exercise contraption has been devised. This jig, jocularly referred to as the "Mobile Muscle Shop," contains various exercise equipment designed to aid the men still in wards to recover the mobility of their arms and legs.

On the 183 acres of landscaped grounds of Forest Glen, Annex of Walter Reed Hospital and known as "Holiday Inn" by the soldiers, 700 convalescent patients are quartered. There is an indoor swimming pool for exercise or recreation and a modern gymnasium where men who reach the more advanced stages of the program can work out, or where soldiers can bowl, play pool, or shuffleboard.

Class 2 and Class 1: The program for Class 2 and Class 1 is designed to produce gradual improvement in strength and resistance to the point where the patient can be discharged from the hospital and assume full military duty without physical injury to self. The greatest emphasis is, therefore, on physical fitness activities rather than educational or recreational ones. Men in these two classes must engage in graded activities that will fit them to pass a physical fitness test and carry out a 15-mile hike. These last two phases of reconditioning, known as con-

valescent training, cover a period of two weeks or more and take place in separate hospital ward buildings or, whenever possible, in detached buildings or units, such as barracks or camps where full military discipline is maintained.

Patients are divided into companies and platoons and wear the duty uniforms of enlisted men in the Army. This grouping is done to give the man a sense of continuation of Army service and to restore them as soon as possible to the status and privileges of soldiers.

Program: The physical training program for these groups usually includes: graded calisthenics; marches of increasing distance; military drill and ceremonies; combative sports and athletics; and outdoor projects. The latter might include victory gardening, poultry-raising, making of obstacle courses and outdoor amphitheaters, carpentry, utility work, etc.

Example: The final program at the Camp Crowder, Missouri, Reconditioning School calls not only for close-order drill and marching, playing of various athletic games, and running of an obstacle course, but also of various phases of military routine. These include courses in military subjects such as military courtesy and discipline, Articles of War, sex morality lectures, hygiene and sanitation, military correspondence, personnel records and reports, and orientation lectures.

Men on Their Own: At the Walter Reed Convalescent Training Section at Beltsville, Maryland, the men build their own quarters, including their day rooms and libraries. There is no personnel except cooks, so that practically all work in barracks or camp is done by the soldiers on regular duty status.

11. *Educational Aspects of the Program:* Many physicians feel that educational reconditioning is so important that, as soon as the patient is physically able, he should spend at least 3 hours a day in self-improvement or in stimulating studies. The Army, therefore, through the Special Services Armed Forces Institute, provides correspondence courses in the field of general education in several hundred colleges for which service men may get credit in a college of their choice.

Men who have not reached college grade can get courses at high school level.

In addition, there are elective studies extending all the way from mathematics to meteorology and art.

Army Orientation Courses: Military subjects in the form of information films, newsmaps, lectures, and discussions, are introduced in order to keep the soldiers in touch with the purposes and progress of the war.

Other Educational Opportunities: These include: foreign language "quickie" courses in 26 subjects; classes for illiterates; libraries; educational films dealing with current events, history, geography, etc.; G. I. movies, etc.; vocational training, morale, and other specialized educational films; basic Radio Code teaching kits; phonographs, for use with foreign language and Radio Code teaching.

Class 4 and Class 3: Self-teaching materials and correspondence courses are made available to the patients. Helpful, interesting, and informative talks and discussions are brought to the bedside in the wards. Later, a central point, such as the Red Cross hall, may serve for lectures and demonstrations. Three or more hours daily are usually used for classes in military instruction, training films, and in general education.

Class 2 and Class 1: Educational studies, in the last phases of reconditioning, become more practical and, in fact, occur largely as part of field exercises. Sanitation, for instance, which may have been taught from book or blackboard, becomes a practical problem in which an actual field sanitation area is built.

Other educational activities consist of one or two hours daily of military instructions, general education, or free discussion of current events. Reconditioning officers strive for originality and interest in presentation and make use of training films, visual aids, slides, posters, charts, graphs, etc. Trips to point of interest, military and cultural, in the vicinity may be a welcome break in routine.

12. Recreational Aspects of the Program: Entertainment for soldiers, an important factor in recovery, is provided under the direction of the Red Cross and in cooperation with Special Services. All volunteer work in the Army general hospitals is under the auspices of the Red Cross. The Hospital and Recreation

Corps, known as the Gray Ladies, provides services and recreation for the ill and convalescent, including an Arts and Skills Course.

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Music Instruction: Through a special arrangement with the Morale Services Division, a former accompanist for a singer, and an internationally known pianist, is on tour of duty, going from one general hospital to another, teaching the boys to play small musical instruments, and also the piano.

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Example: At Forest Glen, Maryland, an Arts and Skills studio is maintained in which soldiers receive instruction in painting, sculpture, clay modeling, pottery making, decoupage (cut-outs), bookbinding, album and scrapbook making, etc. The class is popular, and the studio is filled with interesting and artistic objects made by the wounded soldiers.

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Note: Soldiers who are nearing return to duty may be given passes in the evening to leave camp in order to seek entertainment of their own choosing, and such freedom of activity is encouraged.

13. An important part of the reconditioning program in the Army is planning for the rehabilitation of Certificate of Disability Discharge patients, whose disabilities or diseases are of such character and extent as to render them unfit for further duty. These soldiers, who are segregated in hospital wards during convalescence from those who are being reconditioned for return to duty, constitute in general the amputees, the deaf, the blind, psychoneurotics, and those with other disqualifying handicaps.

Program in general:

1. It is important to plan a special program for C.D.D. patients, for early psychological conditioning is essential to rehabilitation. The philosophy of usefulness, self-reliance, and self-sufficiency is encouraged.

2. Physical training, occupational therapy, recreation, and educational pursuits are adapted to their needs.

3. A program for the specialized rehabilitation of the blind, the deaf, the amputees, and psychoneurotics has been provided in hospitals designated for the purpose. An especially detailed program for the blind and the deaf is now functioning since the particular emotional problems of the newly blinded and deafened and their need for assistance in learning how to live without sight or hearing create a great need for specialized rehabilitation.

Special note: When the men in these rehabilitated groups are ready for discharge from the Army, the Medical Department is faced with the difficult problem of properly telling the families of these men how they should behave towards them in the home.

In the case of the blind, the Army has arranged for the Red Cross worker to present a personal letter explaining the soldier's disability and problems of adjustment to the soldier's family. By this means it is hoped to present the situation wisely.

The Army's new responsibility toward the blind: According to a recent announcement by the War Department, service men blinded in the war will remain members of the Army, Navy or Marine Corps until they have been adjusted to take their places in society at a center to be established and operated by the Army Medical Department. This

step is in line with recommendations of President Roosevelt's committee on rehabilitative measures to be taken in respect to blinded service men during the period of military hospitalization and until a man is ready for vocational training or job placement under the Veterans' Administration.

Note: It is the Army's plan to make available a program of additional rehabilitation for the deaf and amputees, during the period of Army hospitalization, either here or abroad. The Army, however, does not intend to take over the entire rehabilitation program; that is the province of the Veterans' Administration for pensionable disabilities or, in cases not eligible for veterans' benefits, of the State Vocational Rehabilitation Services.

14. When a soldier is ready for discharge from the Army because of physical reasons, the Army Medical Department acquaints him and his family with certain matters pertaining to his disability and explains to him the various opportunities open to him for further hospitalization, pension, or vocational training through the Veterans' Administration or other agencies.

Details: The soldier has an opportunity to discuss frankly and fully the nature and extent of his disability before he leaves the Army. He has a chance to discuss with a representative of the Veterans' Administration what opportunities for work are available to him. This representative can, in turn, discover the aptitudes and interests of the soldier and make suggestions for job possibilities. If retraining is necessary to obtain a certain job, arrangements for such training are made with the Veterans' Administration.

Red Cross Aid:

The American Red Cross social worker assists the patient in plans for his readjustment to civilian life, looking toward the maximum use of his remaining capacities. She explains to the patient the benefits available through federal and state agencies and aids him in filing applications. She interprets the soldier's disability to his family, and wherever the hospital staff deems it necessary, she encourages men and their families to cooperate for further

—Concluded on page 184

MEDICAL TIMES, JUNE, 1944

CONTEMPORARY PROGRESS

MEDICINE

Allergy to Liver Extract

H. T. ENGELHARDT and V. J. DERBES (*Southern Medical Journal*, 37:31, Jan. 1944) report 4 cases illustrating various types of reaction that may occur when liver extract is given by injection in the treatment of pernicious anemia. Not all these reactions are of the allergic type. In the first case reported the patient developed an erythematous reaction at the site of the injection; this reaction was most severe at the time of the first injection; and the reaction decreased in severity as treatment progressed; this was not, therefore, an allergic reaction. In the second case, the patient, whose anemia had been well controlled by liver extract injections for a considerable period, developed faintness and nausea accompanied by a fall in blood pressure after one injection; subsequent injections of the same amount and potency of liver extract had no untoward effect. This reaction the authors describe as a "histamine-like" reaction. In the other 2 cases the reaction was typically allergic. In one case a local reaction did not develop until several injections had been given; as injections were continued, the reaction became progressively more severe and the area of edema larger. In another case, a severe general reaction of an allergic type developed after an injection of liver extract; this was successfully treated by epinephrine and supportive measures. The history obtained subsequently showed that the patient had previously shown similar reactions to liver extract; and an intracutaneous test with 0.02 cc. of the liver extract was strongly positive. The authors are of the opinion that reactions to liver extract occur more frequently than published reports indicate. This should not, however, interfere with the use of liver extract when indicated, because of its known therapeutic value.

The authors prefer to give injections of liver extract in the buttock with the patient lying down as this protects the patient from injury if a general reaction with collapse occurs. Epinephrine should be available in case a general allergic reaction occurs, as such reactions are controlled by an injection of 0.3 to 0.5 cc. of the 1:1000 solution. Local reactions are best avoided by alternating the site of injection. If the reaction is due to some impurity in the extract employed, a change to another preparation of liver extract will prevent further reactions. If the reaction is due to the liver extract *per se*, the use of a different preparation has no effect. Desensitization may be tried, but in the authors' experience, is not often effective. Many patients who show reactions to injections of liver extract tolerate oral therapy well and this should be tried.

COMMENT

I have seen very few reactions following the parenteral use of liver extract (10 units per cc.). Occasionally a patient complains of faintness or there may be an area of erythema around the site of injection. These erythematous areas, however, occasionally follow any parenteral injection. Delikat (British Medical Journal, 1:599, 1943) reported three patients who became "sensitive" to liver extract. By use of divided doses over several weeks, two of the patients were desensitized so that they could tolerate the full requirement of liver extract. To another patient, the required dose was given in small injections over two days without attempt at desensitization.

Those who cannot take liver extract by injection may use Castle's method of home preparation of the extract for oral use. It is simple to prepare but in time most persons rebel against taking it.

If injections are given in the buttock while the patient is lying down, there is much less discomfort since the patient is relaxed. However, with 10 units per cc. it is possible to give the required dose in the arm and this ex-

tract, I believe, is the preferred preparation to use.

M.W.T.

Clinical Studies on Circulation Time With Objective (Photoelectric Cell-Dye) Method

B. JABLONS, JULES COHEN and M. Y. SWIRSKY (*New York State J. Med.*, 44:398, Feb. 15, 1944) describe an objective method for determining circulation time which is based on the principle of "the modification of light transmitted through translucent tissue" to a photoelectric cell by a nontoxic dye injected intravenously, and the recording of the resultant change produced in the electric current. An ordinary pencil flash light bulb with a single battery is used as the source of light; this with the photoelectric cell is mounted on a head band. The photoelectric cell is connected with a pointer type of galvanometer. The test may be made at the patient's bedside; ambulatory patients are placed in the supine position. The head band with the light source and "photo cell" is adjusted so that the active side of the "photo cell" is in contact with the pinna of the ear and the light is directly behind the ear in such a position that the maximum transmitted light source and "photo cell" is adjusted so cell." When the light is turned on, the needle of the galvanometer usually shows full-scale deflection, but it has been found best to regulate the current by the potentiometer so that it registers 70 to 80 on the scale. The injection of methylene blue is made into the antecubital vein, with the patient's arm placed so that this vein is

approximately on a level with the right auricle of the heart; 2 to 5 cc. of a 1 per cent solution of methylene blue are injected rapidly. The time of injection and "the instant" the galvanometer deflection is seen are recorded by a stop watch. Methylene blue solution has been used for this test because it is nontoxic in the amount employed, is rapidly eliminated, has no effect on the hemodynamics in the dosage used, and is easily available. This

method has been employed in 200 cases in two hospitals; the results obtained are in general agreement with those obtained with subjective methods under "ideal" conditions. Because this method is objective, it has the advantage that it does not depend on the patient's cooperation and can be used for the determination of circulation time in cases of stupor, coma, and aphasia, in infants, and in patients who are mentally defective.

COMMENT

Determination of circulation time is an important clinical procedure, too infrequently used. The method described by Jablons et. al.

offers excellent possibilities and should receive further attention.

M.W.T.

The Renal Lesions in Rheumatic Fever

R. L. HUTTON and C. R. BROWN (*Annals of Internal Medicine*, 20:85, Jan. 1944) report that in the past fourteen years 1,622 patients entered the Lincoln Hospital (New York) with a diagnosis of acute rheumatic heart disease; a clinical diagnosis of rheumatic nephritis was not made in any of these cases. In 3,000 autopsies, the principal cause of death was rheumatic cardiac disease in 153 cases. In 3 of these cases focal glomerulitis and arteritis were

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found in the kidneys, and in one diffuse obliterative renal vascular disease was present. A review of the clinical histories in these 4 cases shows one was a child, twelve years old, the other 3 young adults, twenty-seven to thirty-one years old. At the time of admission to the hospital, all showed the typical symptomatology of severe rheumatic heart disease; all showed severe hematuria; in 2 cases renal involvement was severe and there was definite clinical evidence of renal insufficiency. A review of the literature indicates that while clinical evidence of renal involvement in rheumatic fever is seldom observed, there have been a number of autopsy reports indicating that glomerular and renal vascular involvement is relatively frequent in association with rheumatic heart disease.

COMMENT

The authors well point out that we should always be on guard in ascertaining renal involvement in all cases of rheumatic fever.

M.W.T.

The Toxicity of Sulfadiazine

NORMAN PLUMMER and CHARLES WHEELER (*American Journal of Medi-*

cal Sciences, 207:175, Feb. 1944) find that in 1357 cases in which sulfadiazine was given by mouth or sodium sulfadiazine intravenously, toxic reactions occurred in 121 cases, or 8 per cent. The incidence of reactions was higher in the cases in which intravenous sodium sulfadiazine was used (12.3 per cent) than when sulfadiazine was given by mouth. In the series as a whole, and in the cases in which sodium sulfathiazole was given intravenously, renal reactions constituted over half of the toxic reactions. The authors have found that renal reactions to sulfadiazine can be almost entirely prevented by the concomitant administration of sodium bicarbonate (or other organic sodium salt with equivalent available base excess), as well as adequate fluid, which would reduce the incidence of toxic reactions from sulfadiazine to approximately 4 per cent.

COMMENT

Perhaps one should ascertain renal function in most cases where sulfonamides are employed. This applies especially to elderly persons. I like the idea of concomitant administration of sodium bicarbonate. However, one may anticipate toxic reactions by previous attention to renal function, such as a PSP test, which is easily performed.

M.W.T.

SURGERY

Continuous Caudal Analgesia in Surgery

J. L. SOUTHWORTH and R. A. HINGSON (*Annals of Surgery*, 118:945, Dec. 1943) report the use of continuous caudal analgesia in 903 operations of various types. A 1.5 per cent solution of metycaine was employed in all cases, and a special malleable 10-gauge steel needle that was kept in the caudal canal throughout the operation. Three types of caudal block were used. In low caudal block, the anesthesia does not extend above the first lumbar segment; this type is suitable for operations on the rectum, perineum, vagina and urethra. In mid-caudal block, anesthesia extends to the upper lumbar and lower thoracic segments; it is used in operations on the pelvic organs, for suprapubic prostatectomy and for repair of inguinal or

femoral hernia and for operations on the lower extremities; by varying the technique this type of anesthesia can also be used for appendectomy and operation for ventral hernia. High caudal block, in which the anesthesia extends to T-4, has been used in only a few cases—cholecystectomy and other operations involving the upper abdomen and rib resection. Caudal anesthesia gave satisfactory anesthesia, with few complications in 96.7 per cent of the cases in which it was used.

COMMENT

Some years ago caudal anesthesia was quite popular in certain surgical clinics. For many reasons it lost its popularity. While it provided satisfactory anesthesia, in properly selected cases, the effect on the patient was not very happy. Whether or not continuous caudal anesthesia has eliminated these unpleasant experiences remains to be seen. It will have to meet stiff competition among the

very satisfactory methods of anesthesia already in use. However, any new development is very welcome, and undoubtedly there will be cases wherein it may be particularly indicated. Reports continue to appear calling attention to the value of continuous caudal anesthesia in childbirth. Its acceptance is not universal and many obstetricians are not impressed. Its use in general surgery must of necessity be restricted to a limited field. It will probably not supplant other methods of anesthesia commonly and successfully in use at the present moment.

T.M.B.

The Use of Dicumarol in Surgery

N. W. BARKER (*Minnesota Medicine*, 27:102, Feb. 1944) reports the use of dicumarol to prolong prothrombin time and prevent postoperative thrombosis and embolism in 624 surgical patients. Dicumarol was given by mouth in doses of 100 mg. to 300 mg., the dosage being controlled by daily determinations of the prothrombin time (using Magath's modification of the Quick method). The aim of the treatment was to keep the prothrombin time between 27 and 60 seconds. Dicumarol was given postoperatively to 111 patients who had had pulmonary embolism or infarction and survived; only 2 of these patients subsequently developed any thrombosis and none had fatal pulmonary embolism. In a control group of 678 patients not given any anticoagulant, 297 subsequently developed venous thrombosis, pulmonary embolism or infarction, and in 124 (or 18.3 per cent) pulmonary embolism was fatal. In 83 cases, dicumarol was given to patients who had postoperative thrombophlebitis; only 2 of these patients developed further thrombophlebitis and none developed embolism; on the basis of previous experience at the Clinic, the expected incidence of fatal embolism in this group was 5.7 per cent. Dicumarol was given to 30 patients who had developed thrombophlebitis or pulmonary embolism after a previous operation; neither thrombosis or embolism occurred in this group. In a fourth group, dicumarol was given "purely for prophylactic purposes" to 259 patients after abdominal hysterectomy; none developed thrombosis or embolism. According to previous experience, the expected incidence of thrombosis in this group was 4 per cent, of pulmonary embolism 0.7 per cent. In another group dicumarol was given after other types of operations to 141 patients who were considered to run an increased risk of postoperative thrombosis

or embolism because of obesity, varicose veins, anemia, heart disease, or unavoidable trauma to veins at operation; none of these patients developed either thrombosis or embolism. When dicumarol was given entirely for prophylactic purposes, administration was begun on the third postoperative day. The increase in prothrombin time following administration of dicumarol may cause bleeding. In the 624 cases in this series, treated with dicumarol, minor bleeding occurred in 5.3 per cent; "major bleeding" requiring transfusion in 3.2 per cent. Bleeding occurred more frequently when dicumarol was given "purely for prophylaxis" than when used in cases of thrombosis or embolism.

COMMENT

The surgeon has always looked upon post-operative thrombophlebitis and embolism as deadly menaces. Today an ever increasing number of patients are being subjected to major surgical procedures. Some years ago operation would have been denied to many of these patients on the ground that they were poor risks, through advanced age or debilitating disease. At this time it is possible through modern scientific methods to rehabilitate these poor risks and make them operable. In so doing surgeons accept an increased burden of responsibility. Every effort must be made to anticipate and prevent the occurrence of thrombosis and embolism. Many workers in the fields of biochemistry, physiochemistry, hematology and others have made valuable contributions. Clinical and experimental surgical research has been fruitful. Vaso-dilation with relief of angiospasm causing pain and edema can be brought about by paravertebral sympathetic block as suggested by Ochsner.

The hope for future success in prophylaxis and cure of these very troublesome complications seems to be in the development and use of the anticoagulants, particularly heparin and dicumarol.

Surgical literature is replete with articles reporting favorable results with either or both in combination. Compared with the use of heparin, dicumarol has many advantages, notably in that it does not require administration by continuous intravenous infusion. On the other hand there are some disadvantages and the drug should be used carefully with full cooperation of the laboratory and under interested and competent direction and observation. It is certainly not foolproof and we are to see further advances in the use of these drugs. The method is beyond the experimental stage. It offers more than femoral ligation. The authors in this paper outline a very successful and encouraging experience in the use of dicumarol.

T.M.B.

Medical BOOK NEWS

Edited by

ALFRED E. SHIPLEY, M.D., Dr. P.H.

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, 16, N. Y.

War Injuries

Traumatologia De Guerra. By Dr. Terencio Gioia. Buenos Aires, A. Lopez, [c. 1943]. 174 pages, illustrated. 8vo.

THIS treatise consists of a series of lectures delivered by the author during 1942, in the P. Piñero Hospital. They cover practically all phases of traumatic surgery as experienced during the first world war, Spanish civil war, and early part of World War #2.

Dr. Gioia's knowledge of surgical pathology and clinical surgery, as pertaining to traumatic surgery both war and civil, is rather unusual.

It was both pleasing and instructive to review these lectures. One having a reading knowledge of Spanish should not miss the opportunity to add Dr. Gioia's treatise to his surgical reading material.

G. DE YOANNA

Out of Surgical Experience

Surgical Errors and Safeguards. By Max Thorek, M.D., L.L.D. 4th Edition, revised. Philadelphia, J. B. Lippincott Company, [c. 1943]. 1,085 pages, illustrated, 4to. Cloth, \$15.00.

MANY experienced surgeons could write a text on their errors if they would. Rarely does one have the courage to dash into print and from an extensive experience both in volume and in years put down into written word the errors that experience has shown him and the methods by which others may profit by his experience. This is the fourth edition and for the first time includes a chapter by Hubert Winston Smith of the

Harvard Law School on "Legal Responsibility in Surgical Practice."

The text covers errors and safeguards in general surgery and in many of the specialties. As a whole the recommendations are wholesome and of educational value.

Any book of this type which has gone into its fourth edition has made an appeal to the profession. This book has done so and deservedly.

Although a few of the recommendations which are made are perhaps controversial, as a whole the text sticks to the middle of the road and is in keeping with the best surgical teaching of the day.

To the interne, the resident in surgery, and the younger surgeon, this book should have a strong appeal. Its educational value is without question.

ROBERT F. BARBER

Posture

Body Poise. By Walter Truslow, M.D. Baltimore, Williams & Wilkins Co., [c. 1943]. 312 pages, illustrated. 8vo. Cloth, \$4.50.

THE author has given many years of intensive study on the relationship of physical education to the importance of gymnastics in relation to health and deformity and has consistently emphasized the importance of obtaining and maintaining good posture for the enjoyment of good health. He has pioneered in the field of asymmetric exercises as a valuable aid in overcoming static deformities of the human frame, but has constantly



MARCELLO MALPIGHI
1628~1694

Classical Quotations

• Place the lung on a crystal plate illuminated below through a tube by a lighted candle. To it bring a microscope of two lenses, and thus the vessels distributed in a ring-like fashion will be disclosed to you. By the same arrangement of the instruments and light, you will observe the movement of the blood through the vessels in question.

MARCELLO MALPIGHI

From a letter to Borelli, written from Bologna in 1661, translated by James Young Proc. Roy. Soc. Med., vol. 23 (Sect. Hist. Med.), pp. 1-14, 1929 (pp. 7, 8, 9, 10).

phases of the human frame, but has constantly

emphasized the necessity of protection of the parts by proper bracing as the initial phase of correction with gradual substitution of activity for support. This treatise deals with the various phases of relation of body poise to health. It is divided into three parts.

The first part considers in detail the anatomy of the torso and extremities, and presents an appraisal of the various muscle groups that accomplish not only the simple but complex movements of the various joints.

Part two brings rather forcefully to the reader's attention the importance of posture in relation to deformity.

Part three deals with the relationship of supports and competitive games to body poise in a normal muscular development.

The volume will appeal to orthopedic surgeons, principally the chapters on asymmetric exercises for scoliosis. It will be an invaluable reference book to physical educators and athletic directors. They would do well to follow the suggestions of such an outstanding authority.

DONALD E. MCKENNA

For the Arthritic Patient

Your Arthritis: What You Can Do About It. By Alfred E. Phelps, M.D. New York, William Morrow & Company, [c. 1943]. 12mo. Cloth, \$2.00.

THERE has long been a real need on the part of the laity for just this type of book. With the universal disinterest of the practicing profession in the problem of arthritis, the quality of medical care of the average case falls far short of that encountered in heart disease, cancer, pulmonary tuberculosis,—and this in spite of the fact that the arthritides cause more invalidism in the United States than these three groups of diseases combined. Arthritis is one of the step-children of medicine. Few doctors could tell their patients what Doctor Phelps has succeeded in placing before them in this little book. He answers just what the patient usually asks the medical attendant.

The book is interestingly written. In no sense does it reflect that defeatism which is so prevalent in the profession and which acts as a damper to the doctor's enthusiasm. Such chapters as: "What Makes It Hurt" — "Where Danger Lurks" — "When the Body Rebels" — "Posture and Gait" — "The Doctor Prescribes," cannot but interest the unfortunate victim of the disease.

GEORGE E. ANDERSON

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review noted will be promptly published shortly after acknowledgment of receipt has been made in this column.

Safe Convoy. The Expectant Mother's Handbook. By William J. Carrington, M.D. Philadelphia, J. B. Lippincott Company, [c. 1944]. 256 pages. 8vo. Cloth, \$2.50.

Women Healers in Medieval Life and Literature. By Muriel Joy Hughes. New York, King's Crown Press, [c. 1943]. 180 pages. 8vo. Paper, \$2.00.

Old Age in New York City. By Helen Hardy Brunot. New York Welfare Council of New York City [c. 1943]. 8vo. Paper, \$1.50.

Manual of the Diseases of the Eye. By Charles H. May, M.D. Eighteenth Edition. Baltimore, Williams & Wilkins Company, [c. 1943]. 520 pages, illustrated. 12mo. Cloth, \$4.00.

MILITARY MEDICINE

—Concluded from page 178

medical care and vocational or rehabilitative training.

The United States Employment Service, through its Veterans Placement Officers, will assist the patient going home to find a job in essential industry,

with the Red Cross acting as liaison to explain any disability.

Employment opportunities:

Patients who do not require vocational training upon discharge will be offered assistance in securing jobs by the United States Employment Service Vocational Placement Officers or through the Employment Service of the National Selective Service System.

EDITORIALS

How Never to Be Tired

CHARLES BEDAUX, the so-called industrial engineer who devised a speed-up system some years ago, thereby earning the scorn and hatred of the labor world, lived too soon, for *How Never to be Tired* had not been written.

This ineffable publication (Marie Beynon Ray, Bobbs-Merrill Company, 1944) purports to show the reader the causes of his fatigue and "how the overcome them—quickly, easily, almost magically. You can work twice as hard as you have ever worked—and not be tired!"

No wonder that the officials of some of our large industrial organizations are enthusiastically distributing copies among their employees. It would seem that the manpower problem is now solved.

It appears that the trouble with the mass of people and the cause of their comparative failure in life is chronic but remediable and unnecessary fatigue, owing simply to the fact that they are not in on the great secret that this book reveals. In this book the "secret is actually reduced to a formula. Then you are told how to apply this formula to your own case and so get whatever you want out of life."

Those incredible human beings of whom people say "He's a Human Dynamo!" are simply people who undemocratically and selfishly know and apply this secret—who, indeed, have made a kind of success racket out of what should be in the possession of all. One can now, however, "in a few weeks, perhaps in a few days," become a swell dynamo oneself.

"All of a sudden," runs a testimonial, "one reads a book, untangles oneself, spends a few hours submitting a venture withheld for years—and walks away with a check for \$100,000 to make one's dream a reality. That is exactly what happened to me. Even the first chapter did wonders."

MEDICAL TIMES, JULY, 1944



This remarkable revelation, if you please, is "based on . . . consultations with outstanding doctors."

As might be expected, Mr. Dale Carnegie warmly endorses the means whereby "a drab monotonous life" is exchanged for "ecstatic adventure" — whereby one is enabled "to race through life instead of limping"—whereby one can "stride ahead in-

stead of stumbling along half alive," which is right up Dale's alley.

It is nothing short of an outrage and a crime that this key to personal success and industrial production has been in the possession of a minority of sordid climbers to date. We hope that no harm will come to the courageous author because of her temerity in universalizing this great gift. And we hope further that the social order will not be turned topsy-turvy by its sudden presentation. With everyone achieving success in a few days or weeks the traffic may become a bit jammed.

Believe it or not, the source of our information and all quotations are from an advertisement in the book section of the *New York Times* of Sunday, May 14, 1944.

Medical Geography

A SHORT time ago United States Supreme Court Justice Frankfurter, in a decision, said that "The notion that because the words of a statute are plain, its meaning also is plain, is merely pernicious oversimplification," thereby arousing much controversy anent saying what one means and meaning what one says.

The incident reminded us of what Cesalpinus wrote, before Harvey, on the circulation of the blood, and of what John C. Dalton, noted physiologist of New York's College of Physicians and Surgeons, writing in 1884, said about this statement of Cesalpinus.



1



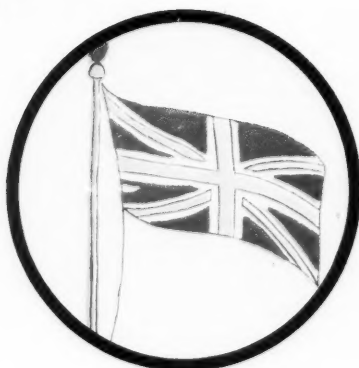
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The Artist in Fleming

Said Cesalpinus: "We will now consider how the attraction of aliment and the process of nutrition take place in plants; for in animals we see the aliment brought through the veins to the heart, as to a laboratory of innate heat and, after receiving there its final perfection, distributed through the arteries to the body at large, by the agency of the spirits produced from this same aliment in the heart."

Said Dalton: "To all conversant with the history of physiological doctrine, it must be evident that there is nothing in this passage which would imply in Cesalpinus a knowledge of the general circulation."

It is universally agreed, in the Anglo-Saxon world, that there must be no god in this particular temple other than Harvey. The Italians unanimously see quite another meaning in Cesalpinus's "plain words."

So sometimes interpretations of plain words are just geographic.

On the page facing . . .

Paintings by Alexander Fleming, first to observe the bacteriostatic effect of penicillin: painted by him with bacterially produced pigments.

. . . See Cultural Medicine, on page 196

1. St. Mary's Hospital Medical School Badge. A mold culture.
2. The color here consists of microbic cultures grown on paper placed on the surface of the culture medium. When placed there is no color but after incubation the different organisms grow and produce their colored colonies.
3. The color producing organisms employed here were the *Bacillus violaceus*, *Sarcina lutea*, *Micrococcus lysodeikticus*, *Bacillus prodigiosus* and *Micrococcus roseus*.
4. The color here is derived from both bacterial and mold cultures. When the growth is completed the paper employed is sterilized, removed from the culture plate and mounted on a card.
5. The organisms here used were the *Bacillus prodigiosus*, *Bacillus violaceus* and *Sarcina lutea*.

MEDICAL TIMES, JULY, 1944

Prospective Liquor Rationing

THE War Food Administration has been officially declared to possess sufficient authority to ration liquor under the Second War Powers Act. The proper agency to carry out the rationing, should it ever go into effect, would be the Bureau of Internal Revenue's alcohol tax unit, rather than the Office of Price Administration, since the former is far better equipped for such a contingency. Congress, however, would presumably have to further strengthen the alcohol tax unit's powers in order to insure one hundred per cent results against the black market.

One now produces a very limited ration book for, say, butter, but one can drink liquor ad. lib. from bar to bar with no limitation (even on the price).

Of the two things, butter should better be unrationed, on the score of the nation's health.

Is liquor really so sacred that "guns or rum" will never take the place of "guns or butter?"

Perhaps there is still something to be said for our old proposal that the barflies be voluntarily registered and supplied with liquor by the government at no cost to them at all, and with no limitation on quantity, provided the stuff is consumed at accredited stations empowered to certify the fact or under control at home. In this way their rate of elimination would go away up and they would all die happy.

We suggest a Gallup poll to permit a choice of the two methods.

4-F Rate Increasing

UNDER the stress of wartime factors Colonel Rowntree reports "a marked increase and perhaps a doubling of incidence and rejection rates in the field of psychosomatic diseases," meaning asthma, peptic ulcer, gastro-intestinal disorders and neurocirculatory asthenia. "The 4-F pool has grown steadily in the last year at the rate of about 85,000 per month." This despite drastic lowering of standards.

All of which is a measure of the effect that the war is having "on emotions, on physical and mental processes, on the nervous and vascular systems, on visceral functions, on health and on personality."

MASTURBATION IN BOTH SEXES

MAX HUHNER, M.D.

New York, N. Y.

I. Masturbation in the Male

WHEN we look at the older writings on the subject of masturbation we read of all sorts of nervous symptoms even including insanity as having been brought about by masturbation. In fact most of these writers were not urologists but neurologists. As is the case of neurologists in general, they go very carefully into the history of their cases and so when they find in many of their nervous patients a history of previous or present masturbation they conclude that this was the prime etiological factor in the bringing on of the particular nervous symptom of which the patient complains.

It never occurred to them, however, that if they went into the history of perfectly normal people or even great geniuses they would likewise get a history of masturbation in the majority of these cases. It also never occurred to them that inasmuch as masturbation is so common in the male sex, why is it that the vast majority of males should not be neurotic or even insane if masturbation was the cause of these conditions? I have often in my books (1, 2) and in my scientific medical articles (3, 4, 5, 6, 7, 8, 9, 10) called attention to this phase of the subject but find that even today there are physicians who still consider masturbation as the most frequent cause of nervous conditions. It is true that most of the physicians who hold to this latter opinion are either neurologists, psychiatrists or psychoanalysts but they seem to exert quite an influence on the general public so that it is not unusual to find among the latter the most crude and exaggerated ideas on this subject.

IT is with the object of correcting such wrong ideas that in this paper I will discuss the subject frankly and without bias in plain unvarnished language and set forth, to support my theories, facts based upon my experiences in this field for over thirty years and will sustain these facts by uncontroversial conclusions from physiology and sexology.

I will show that masturbation is not due to nervous factors, not dependent

upon the will power of the sufferer, but is the necessary outcome of certain pathological conditions which can easily be recognized and treated by the profession with about one hundred percent success. In mentioning the above fact, I wish to emphasize that all my experience is gained from ordinary people and I have no experience in treating this condition in imbeciles, morons or the insane.

Pathology

CONSIDERING the subject just like any other we will start with the pathology. I will show that no new element is introduced and that just as in so many instances, pathology is but perverted physiology.

The series of events in ordinary normal coitus is that the sight or thought of a pleasing female or irritation or friction of the male sexual organs will cause a congestion of the entire sexual apparatus. The prostate and prostatic urethra become congested or engorged with blood and the penis likewise becomes congested and engorged with blood which finally results in its hard and enlarged condition. This all happens during the preliminary sexual play and the congestion increases with the insertion of the penis into the vagina as well as with the consequent friction until ejaculation takes place when there occurs a gradual diminution of the local congestion until the parts are as they were before. All this is strictly normal.

Now if for some reason a man or boy interferes with these series of events and the sexual act is not properly completed, the congestion remains. This happens in the practice of withdrawal, excessive spooning without copulation, and to a certain extent in masturbation. One of the most important differences, however, between masturbation and real sexual intercourse is the frequency with which the former act is indulged in as compared with the latter. No preparation is necessary for masturbation and no partner is required. When one takes the histories of many of these masturbators, one cannot help thinking that if intercourse were indulged in with anything like the frequency with which some of these young adults perform the act, pathological results would obtain. Add to this that in the

very young the act is often performed with immature and only partially developed sex organs, so we must not be surprised at the result.

BUT to continue with the pathology. The desire for sexual intercourse or masturbation may be central or peripheral. The sight or thought of a pretty girl or the reading of erotic literature, or seeing erotic pictures on the stage or in the movies, may excite sexual desire. The course of events in these cases is as follows. Any of the above mentioned excitations will send an impulse to the sexual organs and cause the various engorgements of blood in these organs previously mentioned. Among the peripheral causes may be mentioned manipulations of the sex organs themselves either by the patient himself with his hands or rubbing up against one of the opposite sex in the act of spooning. As soon as this happens an impulse is sent to the brain giving the desire for coitus or masturbation and from there another impulse is sent just as before to the sexual organs causing the various engorgements. One single act of masturbation or one single act of withdrawal will probably do no harm, but if the experiment is frequently repeated, there must result a condition of chronic congestion in the prostate and prostatic urethra. That is why at the very commencement of the habit, before the condition of chronic congestion has been established, the boy or young adult can simply be talked out of continuing the habit without any local treatment whatsoever. But once the local congestion has been established, no amount of persuasion or use of the will power can have any effect on the habit.

IN considering the above explanation of masturbation, several facts now become clear. We can see why the giving of bromides, even in large doses, cannot cure the condition. Bromides do not cure the hyperesthesia of the prostatic urethra, but simply dull the brain cells so that they cannot receive impressions from the prostatic urethra. You might just as well dose a person suffering from scabies so that he can not feel the bites and therefore be less likely to scratch, but you will not cure the scabies; so it is in treating the chronic masturbator with bromides. It also now becomes clear why coitus will

not cure masturbation, although this advice is frequently given; masturbation being due to a congestion of the prostatic urethra, any act that increases such congestion, including the act of coitus, must be harmful. I have often noticed this fact clinically—that many of these patients who attempt coitus, even if successful, still continue to masturbate. In fact, one confirmed masturbator remarked that coitus is a very poor substitute for masturbation.

THERE has now been formed a most vicious circle; the greater the congestion in the prostate and prostatic urethra, the more urgent is the desire to masturbate because impulses are constantly being sent to the brain giving the urge, and the more he masturbates, the greater the congestion becomes. You can no more insist on a confirmed masturbator stopping masturbating than you can insist on a person who has the itch stopping scratching. In the former case it is the local congestions that give the urge and in the latter it is the presence of the parasite which causes the itch. And just as you cannot cure the urge for scratching in the latter condition until you have removed its cause, namely, the itch parasite, so you cannot remove the urge for masturbating before you have removed its cause, namely, the congestions in the prostatic urethra and prostate. I have always insisted that there is nothing mysterious in the actions of the sexual apparatus, and that the nerves, blood vessels, and muscles of the sexual apparatus behave and react exactly like nerves, blood vessels, and muscles in every other part of the body. A congestion in the nose must cause an irritation in that part and the patient must sneeze, a congestion of the vocal cords must cause an irritation in that part and the patient must cough; so a congestion in the prostate and prostatic urethra must cause an irritation there and the person must masturbate (or have coitus).

IN this connection I wish to emphasize that any male can masturbate if he wants to. In certain cases where a young man contemplating matrimony wants to know whether he can have children, some doctors give such a patient a small glass jar and advise him to masturbate leaving the fluid in the jar which the doctor then examines for spermatozoa. But this is not the act of a masturbator. After the

patient has procured the specimen, he is just like he was before and has no further urge for masturbating, but the confirmed masturbator must masturbate again and again.

IN psychic masturbation, the pathology is as follows: Either as a result of previous or recent experience, an impulse is sent from the higher parts of the brain to the sexual centers. These in turn send impulses to the vessels and glands of the genitals just as in normal coitus or ordinary masturbation. If this is frequently repeated not only do the sexual centers, which have not had a chance to return to physiological rest as in normal coitus, become hyperirritated, but the genitals themselves remain hyperemic.

As a result of the hyperirritated condition of the sexual centers, and the local chronic congestion of the genitals, a vicious circle is set up, and the habit is more and more indulged in. Later on the sexual centers become more and more exhausted and it takes stronger and stronger mental images to arouse them into activity. The nervous strain upon the higher centers can easily be imagined.

Symptoms

WHILE as previously mentioned, the older writers ascribed many serious symptoms even including insanity, tuberculosis and the like to a previous or present habit of masturbation, and while we now know that such opinions are ridiculous, we must not fall into the opposite error of thinking that masturbation cannot produce uncomfortable results. This statement is very important for the following reason. Even today there are many quacks who for their own personal gain, like to frighten boys and young adults by describing to them in very lurid manner the dire results of masturbation in order to attract ignorant patients and prolong the so-called treatments for indefinite periods; and there are some reputable physicians who, in order to counteract this action of the quacks, go to the opposite extreme and tell the patient that masturbation is nothing at all, causing no reactions at all, and often laugh at the patient. The result of this is that the patient is driven to the very quacks from whom the doctor had tried to keep him, for the patient quickly notices that the quack takes a deep interest in his symptoms while this

particular physician very often ignores them.

BESIDES the above, we have still a third class of practitioners, namely, the psychoanalysts, who claim that masturbation produces no symptoms at all, but whatever evil effects follow masturbation are due to the stoppage of the habit rather than to the habit itself. Let us for a moment quote one of the most prominent psychoanalysts of Europe (11), the author of many books and whose writings are frequently quoted. I will give but a few extracts of his writings showing his opinion about masturbation. "All the bad effects attributed to masturbation exist only in the imagination of the doctor." "All the evil effects are artificial products brought about by the physician." To show the folly of these statements, I will only mention the very common observation that there are innumerable patients who never have seen a physician for this trouble and who feel disgusted and disheartened after masturbation. He further states "that there are some people who are afraid of contracting venereal disease and others who for religious or ethical reason abstain from coitus before marriage, and that it is for both these classes that masturbation comes in as a great help to preserve their continence." He also says "that masturbation has an important social function. It is in a certain sense the protection of society against men with powerful sexual passion. If masturbation were suppressed, the number of cases of crimes against morality would enormously increase." I will later on show the fallacies in the above statements.

THE psychoanalyst does not believe in a cure for masturbation; in fact, he says that masturbation should not be cured. Stekel (11) expresses the general opinion of psychoanalysts in a very definite manner when he says, "According to my observations, the nervous effects of masturbation only occur if the person stops the masturbation. The neurasthenic symptoms are then falsely ascribed to the previous masturbation, whereas they are due to the giving up of the habit." Further on he again voices his opinion as follows: "As before said there are many people who could not live without masturbation. If we were to take this habit away from them, life would lose all charms for

them and they would be tempted to commit suicide. In other words, masturbation is for these persons irreplaceable, as no other satisfaction can replace this habit." If these statements were correct we would all be nervous wrecks as practically all of us have at one time or another masturbated and then stopped.

The great mistake made by most psychoanalysts is that they consider only the neurologic or psychic aspect of the condition and entirely ignore the fact that, aside from the brain, there are, in the body, sexual organs, which have a marked influence on sexual symptoms. Let me ask in all fairness what does the average psychoanalyst know about a congested prostate or prostatic urethra? For them no such organs exist; everything is in the mind.

In this connection I wish again to state emphatically that I have the greatest admiration for the entire theory of psychoanalysis, but I believe in its application only in the manner that its originator employed it. I understand that Freud did not treat any case by psychoanalysis until his patient had been examined by a trained urologist in order to rule out any possible organic disorder. I myself have from time to time sent cases to psychoanalysts for treatment, and generally these selected cases have been cured by their treatment for the very reason that they were cases in which I could exclude the need of local treatment.

IN giving the symptoms of masturbation it is hard to take the middle course and avoid the exaggerations of the quack on the one hand and the indifference of many physicians on the other. There are some physicians, however, especially among the Germans, who seem to be so carried away with the importance of the subject that in their enthusiasm they outdo the quacks and refer every ailment under the sun to the evil results of masturbation. Listen, for instance, to Steinbacher (12), who "gives in his work as the results of masturbation the following ailments: Insanity, blindness, indigestion, melancholia, hyperchondriasis, squint, sleeplessness, headache, dizziness, itching, abnormalities in the senses of taste and smell, stuttering, angina pectoris, palpitation of the heart, a dry cough that may be mistaken for tuberculosis, asthma, pains in the feet, knees and hands, epilepsy, chorea, spasms or

paralysis of the muscles of the bladder, impotence, etc.

Again, in taking the histories of these cases there is still another error which we must be careful to avoid. We must not suggest any symptom, but allow the patient to tell his own story without interruption. We will then often find that he repeats them by rote as he has read them either in the advertisement of some quack in public newspapers, or from one of the many books that are so freely distributed. It will therefore be evident that the symptoms just heard in such a case cannot scientifically be put down as the symptoms of masturbation, and it is to detect this possible source of error that I never interrupt my patient, so that I may be able to recognize the symptoms suggested by what he has been reading.

AFTER deducting all these exaggerations and sources of error, we will still have certain symptoms and conditions and sequelae of masturbation which are genuine, and not the result of imagination or suggestion. I cannot help repeating here that the symptoms and sequelae of masturbation actually exist, and it is harmful to imagine that they can be talked out of the patient and are only imaginary. I shall now attempt to describe them calmly and without exaggeration as I have actually seen them in my clinics and in private practice.

The most prominent of these is loss of memory. There are few masturbators who, if they complain at all, do not complain of it. I have often made a psychic investigation of this very common symptom and have come to the conclusion that, strictly speaking, there is really no loss of memory whatsoever, but that the events are crowded out of the brain by the daydreams or selfconsciousness of the patient. The masturbator is essentially a dreamer, and in using this term I do not at all wish to use it in the spirit that the term "dreamer" is often used; I do not mean the word "dreamer" as it is often applied to men of great ideals, but I mean it in its literal sense. The masturbator is shy and bashful, exceedingly self-conscious; he thinks everyone can read his condition, becomes a recluse, and he compensates for the loss of outside society by self-communion—in other words, by daydreams. This introspection absorbs his entire attention, and outside events pass him by

hardly noticed, or receive slight attention. It is for this reason that he thinks his memory at fault, but the real reason is not that he forgets, but that he does not observe, or pays too little attention to things outside of his self-thoughts. That there is no real loss of memory is proved by the fact that the masturbator can remember if he wants to. I have had many cases of masturbation among college students and upon inquiry have found that they rank just as high in their work as the average—in fact, some have received honors and prizes for their work, whereas if there were any loss or serious impairment of memory they could not have got along at all. As a matter of fact, masturbation is not incompatible with great genius.

ANOTHER symptom that many complain of is pain or weakness in the muscles of the thighs and legs. Still another common symptom is pain in the eyes, also headache and dizziness. One must be careful to interpret these symptoms correctly, or else harm may be done. For instance, while there are very many masturbators who complain of eye pains and dizziness, so that these can often be ascribed to the urethral disease under consideration, we must not so ascribe them, in any individual case, until the eyes have been examined by a competent ophthalmologist to exclude errors of refraction. And so it is with all the symptoms complained of: before we blame them on masturbation we must be certain that there is not a more real organic basis for them. As stated before, it is just a neglect of this precaution that leads writers into the error of ascribing a long list of ills to masturbation. It must be remembered that the masturbator is exceedingly introspective and likes to blame every trouble he has on his "youthful sin." If he is constipated, or has distress after eating or anything else, he is sure to blame it on masturbation.

COMING now to the symptoms of the genito-urinary tract, we find first and foremost a marked hyperesthesia of the entire urethra, and especially of the prostatic portion. This condition is always present and is almost pathognomonic of masturbation. I have in the course of many genito-urinary examinations examined many urethrae, but in no condition of the urethra, whether due to the presence of a foreign body, to the irri-

tation of a very strong injection, to a tight stricture or what not, is the sensitiveness as evinced by the pain it caused to be at all compared to that which we find in the chronic masturbator. This sensitiveness is very important not only from a symptomatic point of view, but also from a therapeutic and prognostic point. The sensitiveness is our most important guide to the frequency of treatment, to the strength of solution to be used, and also to the cognizance of cure or cessation of all treatment.

HAND in hand with this hyperesthesia of the urethra, and dependent upon the same cause, is the hyperesthesia of the prostate gland as examined per rectum. Here again the hyperesthesia is extreme, even if the gland is not markedly enlarged. I have made it a point for many years to examine the prostate per rectum as a routine in every genito-urinary examination. I have thus made many examinations in acute and chronic urethritis, in acute and chronic prostatitis, in prostatic abscess, etc., but in none of these conditions is the prostate as sensitive as in cases of masturbation. As a general thing the prostate is enlarged, but not necessarily so, and it is always hyperesthetic.

It is a very common error to consider that masturbation is always accompanied by pollutions, using this latter term in a general popular sense, without distinction whether spermatozoa are present in the discharges or not. I cannot, however, too emphatically state that masturbation and pollutions are entirely distinct problems and have nothing to do with each other. While some masturbators also suffer from pollution, still in a very large number of cases patients may masturbate without ever having pollutions.

Again it is a mistake not to think of the possibility of a chronic gonorrhea in a case of masturbation. This is also important, for, if we do not recognize it, we may, by treating the patient for masturbation, light up his old gonorrheal infection and make matters worse. There are masturbators who, as previously stated, think of curing their trouble by coitus and thus acquire gonorrhea.

BUT all these special symptoms, which we have tried to analyze in detail, give but a poor and inadequate picture of the confirmed masturbator. The con-

firmed masturbator is apt to be a physical coward, a man who will stand all sorts of insult, who will run away rather than fight or stick up for his most obvious rights. All the spirit of manhood seems to be crushed out of him. He is very often praised for his gentleness, for his saintlike demeanor, his humility, etc., but if we carefully study the individual, if we dive into his thoughts and make a psychological study of them, we will find that these traits are not virtues. We will find that he feels his wrongs as keenly as another, that he makes plans of revenge in his mind which he would fain carry out, but which he has not the energy to undertake and is too much of a coward to attempt. He is good, not because of any virtue, but because he is too much of a coward to be bad.

AS before mentioned, the masturbator is essentially a dreamer, that is, he is very much occupied with his own thoughts and is very shy and bashful in his relationship with the outside world. He is especially bashful in the presence of women. He feels his condition keenly. Sometimes he attempts coitus with a view of curing his condition, and is often unsuccessful. Frequently, instead of masturbating with his hands he masturbates with his brain—that is, he calls up vivid pictures (psychic masturbation) and so causes erection and ejaculation. These cases of psychic masturbation are the most difficult cases to cure, and the psychic form lasts for some time after the regular form has been abandoned.

And so he continues year after year; the number of times he masturbates varies greatly with the individual, but it is astonishing sometimes to hear how many times a day and for how long a period he can keep it up. It is this frequency and the fact that he needs no special preparation or place of convenience that constitutes one of the great differences (but not the only one) between masturbation and normal coitus.

IT is really remarkable how much insult the sexual apparatus will stand before it rebels. If coitus were practiced nearly as often as some of these patients masturbate, the result might possibly be much more disastrous.

But after a while the patient comes to that stage where he masturbates, not because he likes it, but because he has to. He

has that awful irritation in his deep urethra, and he simply must masturbate. The periods of previous excitement (pleasure) become less and less, as does also the amount of fluid ejaculated. Then there comes a time when he cannot masturbate. He has the irritation, he has the impulse to masturbate, but, no matter how he manipulates his penis or how he excites his brain, he can neither obtain an erection nor an ejaculation. He is indeed in a most wretched condition.

BUT long before this stage is reached the patient's nervous system has been severely affected. He has tremor of the hands, excessive perspiration, pains all over, various mental symptoms (*vide supra*), in fact, the amount of reflex nervous disturbance is most varied. His digestion suffers; he becomes morose and inattentive. He tries coitus and finds himself impotent, but may, however, contract venereal disease. He has tried many times to break himself of the habit, but invariably fails. He may have made the rounds of the various advertising quacks and found no relief. He then falls into despair and thinks there is no remedy for him and that he is doomed to perpetual suffering. It is useless to talk to a confirmed masturbator of self-control, because he cannot control himself.

I have attempted to describe without exaggeration the course of masturbation as I have seen it in clinic and private practice. It is, however, not every case that goes on to this very last condition. The disease may be halted at any stage by treatment. I have attempted to give a general description, but no one description will fit every case. The number of reflex phenomena are as numerous as the various functions of the nervous system.

Course and Prognosis

HERE again my experience is directly the opposite of that of the Freudians. All through their literature we find a remarkable unanimity of opinion to the effect that masturbation should not be cured, that it cannot be cured, that it has a distinct social function, that if stopped the most dire consequences will result and that the crimes against morality will be enormously increased. I have already quoted some of their observations, but cannot refrain from stating that they claim that the evil effects are produced

not by masturbation, but by the stopping of the habit by the physician, and again, that there are some people who could not live without masturbation, and if we got them out of this habit we would deprive their lives of its chief charm and even drive them to suicide, etc.

With all the power that is in me, I would most emphatically protest against this conception of the subject. My experience is based upon the treatment of hundreds of cases which have been followed up for years, and I cannot state too emphatically that I have never witnessed any of the dire results mentioned by the Freudians following such a cure. As will be stated presently, the cure has resulted in nothing but good to the patients and in some cases, especially in the long-standing cases, the results have at times been extraordinarily successful.

AS a general thing, between the time of the first and second treatments, the patient experiences once the desire to masturbate, but is able to resist the desire. Already after the second treatment the patient does not even experience the desire to masturbate. The prognosis is therefore excellent. The psychic form of masturbation continues somewhat longer, but that too yields after a few treatments. It is wonderful how patients, who for years have had that terrible pressing need to masturbate, will, in only the small space of one or two weeks, indeed, already after the first treatment, do entirely without it. But of even more importance than the genital effect of the treatment is the effect on the character of the patient himself. His whole character changes. He now finds delight in the society of women. To take a morose, underfed, ill-natured man and transform him in a little while into a jolly, good-natured fellow, full of the spirit of life, is indeed something to be proud of. But this is not the exception; it is the rule. The only reason for keeping up the treatment for a few months is not so much for fear of a relapse, but that it takes that time fully to restore the prostatic urethra to its normal condition.

It is advisable from the very beginning of treatment to explain to the patients the dangers of illicit sexual intercourse, and this warning should be repeated again and again, especially as the patient

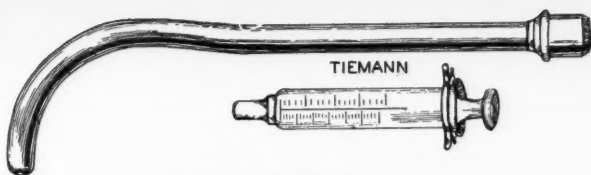
is getting well. As the patient is getting well, his new enjoyment of life, his new interest in the society of women, his greater general intercourse with society, theatre, dances, etc., often beget in him a normal desire for sexual intercourse, which can easily be restrained by a few words of advice. It has already happened that patients have been cured of masturbation, only to come back to the clinic with a gonorrhea, which some seem to be especially proud of their ability to obtain.

Treatment

BEFORE commencing treatment for the disease proper, it is necessary to determine or have determined by competent authority, if some or most of the reflex symptoms are due entirely to masturbation or are caused by some other, possibly more important, organic condition. I remember a good many years ago seeing a patient who had been treated by one of our advertising "specialists" for "lost manhood" and whose chief symptoms were loss of weight and energy and marked perspiration, but who, in fact, although a masturbator, was well advanced in pulmonary tuberculosis, which was the real and more important cause of his symptoms. In the same way pains over the eyes and headache may be due to errors of refraction, palpitation of the heart to organic heart disease or tobacco, etc., or the patient may be psychopathic or neurasthenic.

The treatment of masturbation proper which I have employed for many years with excellent results is as follows:

THE patient always presents himself with a full bladder; this is important for two reasons—in the first place so that the patient can urinate immediately after his prostate has been massaged and so expel the mucus that has been expressed from the follicles, and, in the second place, it is better to have his bladder empty after the injection presently to be described has been given, so that he may refrain from urinating for some time after the injection. Again, if the bladder is not full it is also harder to reach the prostate and more difficult to massage it, and in addition we also get an entirely wrong idea of the size of the prostate if palpated per rectum with the bladder empty. So that if the patient presents himself with a



Bangs' Sound Syringe

This instrument is just like a urethral sound but running through its entire length is a small channel. The end of the sound is made so that a syringe can be applied to it, and any injection made with the syringe runs through the channel and is deposited into the urethra. We thus get the beneficial effect of the cold sound and the silver nitrate instillation at the same time with the insertion of but one instrument into the urethra.

full bladder, it is easier to palpate his prostate, easier to massage it, and easier for him to empty his bladder after the massage. The patient then stands with his buttocks toward the physician, and the index finger, protected by a finger cot, is carefully and slowly introduced into the anus till the prostate is reached, and the prostate is then gently and slowly massaged. The prostate will be found at the first examination to be exquisitely tender and must be handled very gently, remembering that the object is not to squeeze out every drop of mucus from the prostatic follicles, as we attempt to do in certain cases of chronic gonorrhea, but the object is to massage it. The first seance should last only a few seconds, and on subsequent visits the prostate will generally be found less and less sensitive, and the length of time of massage, as also the pressure employed, should be greater. The amount of pressure employed, as well as the length of time of massage, is entirely regulated by the sensitiveness of the organ. As soon as the prostate has been massaged the patient is directed to urinate, but he will have some difficulty in starting the stream. This fact is noted whenever the prostate is massaged for any condition whatsoever—that the patient with a full bladder, which is just bursting to pass water, will, after the massage, not be able to pass it and have little desire to urinate. It may be necessary for the physician to leave the room or else have the patient go to a regular toilet before he is able to start the stream.

AFTER the patient has emptied the bladder, he lies down upon the table,

the meatus is cleaned, and with a Bang's sound syringe a 1:3000 silver-nitrate solution is instilled into the deep urethra. These sound syringes comes in sizes corresponding to the regular sounds. There are some who recommend, instead, the passage of a cold ordinary sound. I have tried both methods, and have found the sound syringe so far superior to the cold sound that I have given up the latter

for many years. The sound syringe must be lubricated with some substance that will not interfere chemically or mechanically with silver nitrate; by mechanically I mean it must not coat the walls of the urethra with an impervious substance. Vaseline is absolutely useless for this purpose. I use preparations of Irish moss. As little as possible of the lubricant should be put on the instrument. The instrument should be introduced gently and slowly into the urethra till its tip is well within the prostatic urethra. The urethra, especially the prostatic urethra, will be found very sensitive. Those who have not learned the art (and it is a great art) of introducing an instrument slowly into the urethra had better not make their first attempt on patients who have masturbated; let them first practice on some old insensitive stricture case.

YOU cannot go too slowly. When the instrument is in place, a few drops of the solution are deposited in the deep urethra; there is absolutely no harm if some of the solution should get into the bladder; then the instrument is withdrawn a trifle and a few more drops are instilled, and so on. Most of the contents of the syringe are instilled into the prostatic urethra, but as the instrument is being withdrawn, a little is injected all along the anterior urethra also. This is all that is done. The patient is told to retain his urine as long as possible after the treatment and to report in five days. He is cautioned to avoid tea, coffee, beer, and all alcoholic drinks.

At first a very small size sound syringe is used, as well as a very weak solution

of silver nitrate. As the case progresses, larger size sound syringes should be used till we get one through as large as the meatus will stand. The strength of the silver solution is also increased as follows: 1:3000, 1:2500, 1:2000, 1:1500, 1:1000, and 1:500. Our chief guide as regards the size of the instrument used, as well as the strength of the silver solution, is the sensitiveness of the urethra as judged by the amount of burning and reaction produced by the last injection. I never make it stronger than 1:500. Those who have little experience in genito-urinary therapeutics will be surprised to discover what power exists in weak solutions of silver nitrate.

The patient is seen every five days if possible, until we have reached the strongest solution of the silver nitrate and the largest size sound syringe, then once a week, once every two weeks, once every three weeks, once a month, and finally two or three months are allowed to elapse without treatment, and if nothing happens he is pronounced cured. The entire treatment, including the long intervals, takes about six months, but the number of visits

made by the patient is very small, as toward the end the intervals of treatment are very long and take up most of the six months.

Conclusions

MASTURBATION results from a real disease, causing real discomforts, and is not due to imaginary factors.

Do not blame every symptom the patient complains of on his masturbation, as his symptoms may be due to pathological conditions in other organs.

Masturbation and pollutions are distinct problems, although they may coexist.

Masturbation is dependent upon a pathological condition of the prostatic urethra and not upon imagination on the part of the patient.

Coitus will not cure masturbation and is a dangerous experiment.

Masturbation is to be treated by removing the pathological condition in the prostatic urethra, and not by punishment or talking it out of the patient or appealing to his self-control.

Masturbation is curable.

(To be Continued)

CULTURAL MEDICINE

THE ARTIST IN FLEMING

IT was the last item in the British *Who's Who* biographic sketch of Alexander Fleming, famed for his work on penicillin, that commanded our chief interest. This was noted late in March, 1944.

Alexander Fleming, M.B. (London); F.R.C.S. (England); Professor of Bacteriology in the University of London, St. Mary's Hospital Medical School; born Lochfield, Darvel, Scotland; son of Hugh Fleming; married Sara Marion, daughter of John McElroy, Leigherntain House, Killalla, County Mayo; one son. Education: Kilmarnock Academy; St. Mary's Hospital Medical School (almost all class prizes and scholarships including senior entrance scholarship in natural science). Honours in Physiology, Pharmacology, Medicine, Pathology, Foren-

sic Medicine and Hygiene; University Gold Medal, in M.B., B.S. 1908; Hunterian Professor and Arris and Gale Lecturer, Royal College of Surgeons; Captain Royal Army Medical Corps (despatches); late President of London Ayrshire Society; Private in London Scottish for 14 years. Publications: numerous on Bacteriology, Immunology and Chemotherapy. Recreations: swimming, rifle shooting. Address 20 Danvers Street, S.W. 3. Telephone Flaxman 8446. Club: Chelsea Arts.

SO with this last item as a clue, we appealed to the British Information Services in New York City for more light on the subject. If Fleming was a member of the Chelsea Arts Club, we reasoned, he must in some way fall into the artist category; there must be specimens of his work available for reproduction. Whereupon

From the Editorial Research Department of the MEDICAL TIMES.

the British Information Services promptly joined in the quest and cabled forthwith—on or about March 30—to London. Five kodachromes and five prints were on our desk April 18. Presumably, they had been flown over. By gracious permission of the British Information Services we take pleasure in presenting this exhibit of Fleming's paintings, done, if your please, with *bacterially produced pigments*—something to be added to the man's uniquely creative accomplishments.

Is there not always a streak—or a deep vein—of the artist in highly gifted discoverers, whatever their field? For there is a certain beauty in the working of creative talents—beauty in the way things are thought out and done and beauty in the perfect product, let us say the beneficent properties of penicillin and the lucid description of them in Fleming's original paper, now one of the classics of medical literature (*British Journal of Experimental Pathology*, 10:226, June, 1929).

MEDICAL ECONOMICS

Voluntary Non-Profit Pre-Payment Sickness Insurance

Arthur J. Offerman, M.D.
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AMERICAN doctors practicing American medicine, under the present system, have developed the most effective medical care that has ever been provided for any large group of people anywhere in the world. Under the medical care now provided in the United States the highest level of health, the lowest incidence of disease, and the lowest death rate ever known under similar conditions are now being maintained. All of this has been accomplished under the present system of practice, due to a high standard of medical education, training and research, which, likewise, are products of American medicine.

The Proposed Wagner-Murray Act. The Bill to provide Political or State Medicine for the United States would be bad, both for the person who is sick, and for the practicing physician, for the following reasons: Good Medicine must have THREE things: It must be PERSONAL, it must be VOLUNTARY, it must have INCENTIVE. Political domination of medical practice would remove all three of these necessary qualities. Personal relationship between patient and physician

would be lost. Compulsion would be introduced and regimentation of the medical profession would be established. Doctors would be paid by the government and presumably would work 8 hours a day. The emergency illness would have to wait until the doctor was on the job. There would be little incentive for the doctor to increase his skill or proficiency in his particular field of medicine. Initiative would be discouraged as the system and method of practice would be strictly regimented and would have to be adjusted to the budget of any particular fiscal year. Compulsory plans are anchored to financial, administrative and political considerations, to which the quality of medical service must be made to conform. Compulsory plans are imposed by forcible revolution, fixed by law and changeable only through political pressure. The vested interests which they create and protect are those of partisan politics. The health of the public and the progress of medical art and science seem to be secondary to administrative considerations, notwithstanding the protests and statements of legislators that they are concerned only with the delivery of medical service. Had they been concerned with maintaining the present high quality of medical service, they

Read before the Annual Session of the House of Delegates of the Nebraska State Medical Association on May 3, 1944. The Delegates voted in favor of study and preparation of such a plan for Nebraska.

MEDICAL TIMES, JULY, 1944

would have consulted with representative doctors of medicine, who are actually in the practice of medicine, daily treating the sick, as to the best possible technique by which the desirable objectives could be secured.

THERE is a common impression that the medical profession is bitterly opposed to any change, but that is a misunderstanding. I believe that a modern definition of the socialization of medicine would be the adaptation of medical care to the welfare of the community. Neither the profession nor the hospital groups have opposed adaptation or change in medical care which has appeared to be desirable for the welfare of the people. On the contrary, a study of official actions of national medical and hospital associations, over a period of years, indicates clearly that the official bodies of these associations have favored such changes as were and are necessary to meet the needs of the people. At the individual level, every doctor who arises in the middle of the night to attend the sick, who lowers his bill to meet the financial capacity of a patient to pay, who contributes liberally of his time in a teaching capacity both to nurses and medical students, is not only literally but actually "socializing" his services.

A recent survey, just completed, by the largest research opinion group of this country, reveals the following facts: When people understand fully such proposals as the Wagner Bill, they are unqualifiedly opposed to such legislation. Even though the people sense the need for the extension of facilities designed to meet the costs of unusual and prolonged illnesses, only a small minority, as shown by this report, believe that compulsory sickness insurance would provide a satisfactory solution to their problem.

MANY of the questions in this research concerned the personal experiences of the people with medical care as now provided in the United States. The replies in great majority indicated that the people are deeply conscious of the value of individualized service in the effectiveness of medical care, that they want complete freedom of choice in time of illness, and that they believe choice would be limited and restricted by the administration of medical care under the auspices of the Federal Government.

Out of this report came the conviction that many persons find difficulty in meeting bills for unusual and prolonged illness and desire to participate in plans or methods for insurance against hazards of emergency illness. Already great numbers of people are familiar with various pre-payment plans for medical service available throughout the country. The investigations extended into many communities in which such plans are operating and covered the experience of the participants. To summarize the many questions asked on this phase of the report: Persons who participate in the pre-payment plans approve them. In every instance such persons believe that they are better off than their neighbors who do not have the opportunity to participate in such plans. The doctors in areas where such plans are in operation believe that the people are better off because of the operation of the plan. The operation of these plans is of great benefit to the doctors in these areas.

These plans underwriting the expenses of medical care would extend to an additionally great number of people, and give better medical service, by removal of the financial barrier. Insurance premiums are preferable to hospital and doctor bills.

The fine service of the Blue Cross group, in providing hospital care through the application of the insurance principle, is an excellent illustration of the voluntary method of group insurance in action. The great majority of people are now bitterly opposed to further regimentation. They are opposed to further dictation and centralization of authority in the hands of a few of our elected and a greater number of our un-elected officials and bureaucrats.

THE medical profession now has an unusual opportunity to steal the show from the social planners and the politicians. Doctors must now think and actively cooperate with each other, through the mechanism of their local and state medical societies, to place a constructive plan of pre-payment sickness insurance in operation.

The doctor must now think: "What can I contribute to make this plan successful?—rather than, what can I get out of the plan?"

Doctors must now think: "What is good for the Public? What is good for our

patients?" We must improve our public relations. Good public relations are very necessary. Good public relations are deeds and not words. Publicity is not public relations. We must extend medical care to all groups of people and we must provide a method whereby this medical care can be paid for in an adequate manner. Doctors must now accept the responsibility and assume the initiative to put a plan in operation. We may make some mistakes, but we will have the opportunity and the ability to correct those mistakes. If the doctors fail to accept the responsibility, they can expect to give up their medical freedom. Doctors must be as active and aggressive in the practice of medical economics, in its modern meaning, as they are in the practice of modern medicine and surgery.

I think that we have damned the New Dealers, the social planners, and the politicians long enough and loud enough, and, I now think, it is time that we put in operation a constructive, adequate plan of our own, namely, PRE-PAYMENT SICKNESS INSURANCE.

I WOULD suggest the following: That the Nebraska State Medical Association organize a non-profit corporation to provide indemnities to pay for medical service. In the beginning, it would provide a limited service, indemnifying the participants in the plan, in part or in full, for surgical and maternity care, and radiological and pathological services. Anesthesia to be administered by a doctor. The Medical Association should and must control the medical policy of the plan. The State Blue Cross group can sell and administer the business management of the plan, under the control of the Medical Association, that is, by a group of directors elected by the Medical Association. The surgical-maternity plan is to operate separately from the hospital plan. It is to be a separate corporation, with separate funds and finances. Both plans can maintain the same office, sales force and business management, thereby reducing the overhead expenses of operation.

PRE-PAYMENT MEDICAL CARE IS AN ABSOLUTE CERTAINTY IN THE VERY NEAR FUTURE. The doctors through their organized societies must direct the form of the plan according to the needs of the area, whether it be city or rural. Numerous state and county societies are successfully operating plans.

There are more than 250 plans in operation today. The State of Michigan has a very successful plan. Both Kansas City and Denver have fine plans that seem to be working.

Enough experience has been gained in Michigan, Missouri and Colorado to formulate a plan for Nebraska. A non-profit insurance corporation could be organized to provide indemnities for surgical-maternity care, and radiological and pathological services. Anesthesia to be administered by a doctor.

We would provide a scale of surgical and maternity indemnities as follows:

Tonsillectomy and Adenoid-ectomy	\$ 35.00
Maternity care (normal delivery)	50.00
Herniotomy	75.00
Appendectomy	100.00
Cholecystectomy	125.00
Gastric resection	150.00
Similar moderate fees for other operations not listed.	

Indemnities for the treatment of fractures would closely approximate the Nebraska compensation fee schedule. Moderate annual allowances for radiological pathological services. Anesthesia to be administered by a doctor.

"The magic of the averages to the rescue of the millions" is shown by the fact that it has been proven in Michigan and elsewhere that the above schedule of indemnities can be provided for, by a premium charge of:

Individual (no maternity benefits) dependent on proportion of female enrollment	\$.75 to \$.90 per month.
Man and Wife (no maternity)	\$1.50 per month
Man and Wife (Maternity Benefits included)	\$2.00 per month
Family Group (Maternity Benefits included)	\$2.00 per month

This plan would be sold to employed groups or to self-employed groups, with pay roll deduction or any other satisfactory method of group collections of premiums. This schedule of premium charges would indemnify an individual or a family group for the greater proportion of their surgical-maternity, x-ray, etc., expenses. It would preserve the fine present PATIENT-PHYSICIAN relationship. It would preserve freedom of choice of doctor. **IT WOULD NOT SET A FEE SCHEDULE.** The FEE for services rendered would be determined by mutual

agreement between patient and physician as is now customary. This method of underwriting these expenses would extend to an additionally great number of people better **MEDICAL SERVICE**, by removing the financial barrier.

The above plan does not provide for medical service, such as house visits in the care of ordinary illnesses, such as infectious diseases, influenza, pneumonia, kidney diseases, heart disease and other medical afflictions. As yet, there has not been worked out any sound actuarial experience to underwrite the cost of this type of medical service. But these experiences are accumulating and when they are found to be actuarially sound, they could be added to, and included in the plan. For example, it is thought that a medical illness, exclusive of the first five days, might be indemnified for a reasonable amount per day, say \$3.00 per day for the next thirty (30) days of medical care, for a small additional amount of premium.

AT a recent meeting of the Medical Service Plans Council of America, reports were read by the directors of the plans in all parts of the country and the general experience was, that there is a great demand on the part of employed groups, particularly those whose earnings are in the lower brackets, for **PRE-PAYMENT SICKNESS INSURANCE**. Great numbers of employers are now actively co-operating and are urging their employees to purchase this type of security. Furthermore, employers in many instances are making sizable contributions to the cost of sickness and hospital insurance, because they realize that this is a method of further improving their public relations with their employees, with

little or no cost to the employer, for the reason that these amounts may be deducted from the employers' income tax.

State medical organizations have attempted to set up pre-paid medical insurance plans and have failed, because the people failed to support them by purchasing the protection. These plans failed for the reason that no practical, aggressive campaign was really made to sell the service and most of the public never knew the plans were offered. These plans must be actuarially sound and well conceived and must have an aggressive sales organization to present them to the public. On March 31, 1944, the Nebraska Blue Cross had 13,410 subscribers for hospital service, who are potential subscribers for a pre-payment sickness insurance indemnity plan.

THE fate of American medicine and the interest of the American people hang on the question of who reaches the goal first and gains control of the vast field of medical practice—**THE MEDICAL PROFESSION OR THE POLITICIANS**.

This plan must have the active interest and co-operation of all doctors, if it is to be successful. This voluntary effort will succeed beyond our fondest expectations if we can awaken the doctors to their opportunity and responsibility.

The members of the Nebraska State Medical Society must realize that within the membership of this society there is a sufficiency of initiative and good planning to successfully place this plan in operation, and they must further realize that they cannot expect a great measure of outside help in this matter from any other persons or organizations.

Gentlemen, this is **OUR** problem and **WE** must find the answer!
3334 Pine Street.



New Hospital Program Aids Visitors Here

A NEW SERVICE enabling members of any Blue Cross Hospital Service Plan in the United States to receive benefits in New York hospitals through the New York Plan has been announced by Louis H. Pink, President of Associated Hospital Service of New York.

New Milk Regulation in Effect

IN ACCORDANCE with the recent New York City Health Department regulation which became effective on January 1st, 1944, no unpasteurized milk will be sold or delivered in New York City except Raw Certified Milk, for which the consumer will file a physician's prescription with his milk dealer.

MISCELLANY

HIGHLIGHTS IN THE CHEMICAL HISTORY OF QUININE.

NATURAL AND SYNTHETIC

1820—Quinine was isolated for the first time from the other alkaloids of the cinchona bark by two French chemists, Pelletier and Caventou. Before they separated quinine, all the cinchona bark alkaloids together were customarily administered to fever-stricken malaria sufferers.

1853—Pasteur made quinotoxine from quinine. Although this was achieved by a simple chemical process, it is worthy of note because it was the first time that quinotoxine was ever recorded.

1855—The German chemist, Strecker, established the number of atoms of carbon, hydrogen, nitrogen and oxygen present in the quinine molecule.

1856—In an effort to help combat a malaria epidemic, William Henry Perkin, who later in his life was knighted, made the first recorded effort to synthesize quinine. Perkin hoped to duplicate the quinine atomic structure by combining the requisite number and kind of atoms which he had extracted from common chemicals, principally coal tar derivatives.

1871—Quinotoxine, produced earlier from quinine by Pasteur, was isolated from cinchona bark by Howard.

1908—Rabe, a German scientist, determined the molecular structure of quinine. This great work was made possible largely by formulas developed by another German, Koenigs.

1918—Starting with quinotoxine, the same product Pasteur had produced from quinine in 1853, Rabe resynthesized quinine. His work, however, is not a synthesis because his process requires natural quinine with which to start instead of common synthetic chemicals.

1931—Rabe synthesized dihydroquinine

Note.—Data by courtesy of Polaroid Corporation, sponsor of the research involved. The interest of this corporation's research division grew out of the part played by quinine in the development of light-polarizing substances.

which, but for two extra atoms of hydrogen, has precisely the molecular structure of quinine. In so doing he provided another important clue which Woodward and Doering followed. He showed how two portions of the molecule of a typical cinchona alkaloid like quinine could be combined if they could be made available. His method, however, lacked the procedure required to synthesize the main portion.

1944—Woodward and Doering are the first to develop a process for synthesizing quinine totally.

ACHEMICAL method for duplicating quinine identical in every respect with the anti-malarial drug extracted from the bark of cinchona trees has finally been developed after almost a hundred years of attempts by chemists seeking the correct process.

Announcement of the synthesis of quinine was made in an article in the May, 1944 issue of the *Journal of the American Chemical Society* entitled "The Total Synthesis of Quinine," by Dr. Robert B. Woodward and Dr. William E. Doering.

The plan for synthesizing the complex drug was originated by Woodward, a Harvard instructor in organic chemistry. Doering worked as collaborator on the project. He has since become an instructor in organic chemistry at Columbia University.

WOODWARD and Doering took less than fourteen months to complete their work. Their new synthetic material is a precise duplicate of natural quinine; it cannot be distinguished from natural quinine. In this respect it is completely unlike atabrine and plasmochin, which are used as partial substitutes for natural

quinine in the treatment of malaria but actually have no chemical resemblance to quinine.

The two chemists devised their method of duplicating the cinchona drug by arranging carbon, hydrogen, nitrogen, and oxygen atoms in precisely the same relationships as nature's arrangement of these atoms within the molecular structure of quinine. Using common chemicals, they were able to make quinine, a goal which scientists for years had tried to achieve.

MILITARY interest in the new process relates to its possibility as a replacement for the vast quinine-bearing cinchona tree plantations in the Jap-held Netherlands East Indies. These plantations were formerly the chief source of quinine supply for the world. It is by no means certain, however, that the synthetic drug can be manufactured on a large scale for use during the war.

As yet it has not been determined whether the intricate process involved in this synthesis can be made commercially practicable. The main interest is in the scientific and military contribution involved in this project.

In achieving their goal, Woodward and Doering not only duplicated quinine but in addition created an entirely new substance closely related to quinine. Foreign to nature, the new molecule may conceivably have medical value. The Woodward-Doering work is also significant because it promises to pave the way for other new quinine-like materials that nature has never provided.

ACCORDING to the Woodward-Doering article in the *Journal of the American Chemical Society*, "Quinine preparations have been known and used for centuries in the treatment of malaria. The pure crystalline alkaloid was isolated in 1820, and the extensive degradative researches of the last century culminated in the proposal of the correct structure in 1908, but the complexity of the molecule has placed hitherto insurmountable difficulties in the way of the total synthesis of the drug."

The quinine produced by the tropical cinchona tree had never been duplicated by chemists. Although chemists had isolated it from the raw bark, described it, and made accurate models of its internal structure, only the tropical tree could

build up, atom by atom, the complex pattern of the true quinine molecule. In the midst of a malaria epidemic in 1856, Sir William Henry Perkin tried to synthesize quinine by simply combining the right number of the right chemical atoms. Modern chemists know that thousands of different substances have exactly the same number and kind of atoms, and that it is the arrangement of the atoms that distinguishes one of these compounds from another. Therefore, Perkin's chances for success were about as good as those of a carpenter who tries to build a house at the foot of a hill by dropping the shingles, rafters, doors and windows from the hill-top. What he produced was not quinine but mauve, the dye that started the organic chemical industry. Later efforts by others also failed to duplicate the natural drug, but some of these were invaluable to Woodward and Doering who fitted earlier contributions with contributions of their own, like pieces of a complicated jig-saw puzzle, to achieve the total synthesis.

TO synthesize any natural product, the chemist first finds out the number and kinds of atoms in the molecule of the natural product. This corresponds to the carpenter's list of materials. Then to identify the molecule, the chemist has to discover the way in which the atoms are arranged within the molecule. This corresponds to a carpenter's blueprint. Chemical tests help identify a structure like the quinine molecule which is only .06 millionths of an inch in length. Once the atomic structure is determined, the remaining great problem in a synthesis is to find a way of assembling the atoms to complete the structure according to the blueprint.

THE general procedure is straightforward and consistent for any synthesis. In the quinine synthesis, Woodward and Doering combined simple synthetic substances in such a way that their atomic arrangements were reassembled to match somewhat the atomic arrangements of natural quinine. By various chemical methods, they then combined portions of the substances until they had a product with a skeletal molecular structure resembling quinine. From this stage, the completion of their synthesis required elaborate and subtle changes in the nature of the atomic groups of the main skel-

eton until the quinine structure was duplicated.

To recapitulate, in 1908, the German scientists Rabe and Koenigs found out how the atoms of the quinine molecule are arranged. Over fifty years earlier, another German, Strecker, had determined that the molecule consists of 20 carbon, 24 hydrogen, 2 oxygen and 2 nitrogen atoms. In 1918, from the alkaloid quinotoxine which Pasteur had originally produced from natural quinine, Rabe succeeded in resynthesizing quinine. Woodward and Doering realized the success of their own efforts when they reached the total synthesis of quinotoxine. To achieve their goal, all that was left for them to do was to retrace Rabe's steps.

The Woodward-Doering process resulted

in the synthesis of two different molecular structures. One structure is identical with quinine and the other looks like the reflection of the quinine molecule in a mirror. Known technically as an optical isomer, the mirror-image structure does not exist in nature. However, it may be found to have the therapeutic properties of natural and synthetic quinine. If it has, the combined anti-malarial substances would be much easier to produce because it would not be necessary to separate the synthetic quinine from its optical isomer. A separation of this kind invariably results in material loss due to manipulation. Tests are now projected to determine the therapeutic properties of the mirror-image molecule.



Armed Forces Take Half of New Doctors Each Year

DR. JAMES E. PAULLIN, retiring president of the American Medical Association, warns against "an alarming situation" in medicine, seriously threatening the public health, because so many doctors are in the armed forces and it is difficult to obtain draft deferments for premedical students.

So hazardous is this situation as it relates to the health and welfare of the American people that several special committees of the American Medical Association are working seriously on this problem right now.

In age groups over 45, there are now more deaths among doctors than statistics would lead us to expect—simply because of the excessive strain placed upon these doctors by today's difficult times.

Today with more than 60,000 doctors in the armed forces and with the Army and Navy taking more than half of the new graduates each year, an alarming situation has developed which in the future may seriously threaten the public health.

About 3,600 doctors are entering the armed services annually. There is an annual deficit each year of at least 2,200 doctors, since the vacancies created in medical ranks by death or forced retirement from practice because of age or illness cannot be filled. The reason for this

lies in the difficulty of deferring premedical students, and in keeping our classes filled with otherwise draft-exempt men or with women.

Medical Research Projects at Columbia University

TWENTY-SEVEN gifts to Columbia University aggregating \$488,127 are announced by Dr. Nicholas Murray Butler, president of the University. The funds will be used largely to further research in medicine, chemistry, nutrition and allied fields.

The largest single gift, \$400,000, came from Bernard M. Baruch for research in physical medicine in the College of Physicians and Surgeons.

The D. S. and R. H. Gottesman Foundation gave \$10,000 to establish the D. S. and R. H. Gottesman Foundation Gift in the department of surgery.

The Nutrition Foundation, Inc., presented \$6,250 in support of three scientific projects. \$2,500 was given for research in the "role of acetic acid in intermediary metabolism" under Dr. H. T. Clarke; \$1,750 for research in "oxidizing enzymes and other factors related to nutritive value of dehydrated goods" under Drs. J. M. Nelson and C. R. Dawson; and \$2,000 for research in "quantitative relations of vitamin A intake to bodily store and well-being at different ages" under Dr. H. C. Sherman.

SURGERY

Infected Burns and Surface Wounds: Value of Penicillin

D. C. BODENHAM (*Lancet*, 2:725, Dec. 11, 1943) has found that *Staphylococcus aureus* is the organism most frequently present in burns and surface wounds; it is resistant to sulfonamides, but not to penicillin. Hemolytic streptococci are responsible for the most serious local and constitutional disturbances arising from infected wounds; these streptococci may be resistant to local application of sulfonamides, but not to penicillin. In the treatment of burns and surface wounds, the author has employed penicillin in two forms, in a powder mixture and in a cream. In a small group of cases penicillin as a calcium salt in powder form was used, but it was found to be "extravagant" to use the powder undiluted in this form. A larger group of cases was treated with penicillin mixed with sterilized sulfanilamide powder, 1000 units per gram. This was effective in overcoming wound infection if applied as "a light frosting" every twenty-four hours. In other cases penicillin was added to a cream made by autoclaving a mixture of soft paraffin, lanette wax SX and water, 100 units per gram. If the cream was applied every twenty-four hours, the best results were obtained in overcoming infection and preparing the surface for skin grafting. It was found that penicillin in strength of 20 units per sq. cm. "has no adverse effect" on skin grafts. If the penicillin cream is used for dressing the wound, bandages should be applied with "firm pressure" before skin grafting, otherwise the granulations tend to become exuberant and edematous.

COMMENT

Current surgical literature abounds in articles similar to the one herein abstracted, each and all recounting satisfactory experiences in the use of that amazing drug penicillin.

Its use as suggested by the authors must

be limited, owing to the difficulties in obtaining the drug. When war time needs are satisfied and a sufficient supply is available for civilian use, we may expect further encouraging, if not startling, reports attending its use in the treatment of infection, whether it be local or general.

T.M.B.

A New Technique for Using the Levine Tube in Biliary Intestinal Anastomosis

N. F. HICKEN, I. B. CORAY and J. H. CARLQUIST (*Surgery, Gynecology and Obstetrics*, 78:58, Jan. 1944) describe a new technique for using an indwelling Levine tube for decompression" of the obstructed bile ducts in biliary intestinal anastomosis. This method has been used in cholecystoenterostomy, choledochenterostomy and hepaticoenterostomy. In the pre-operative period repeated gastric lavage is done. Just before the operation is begun a Levine tube (previously sterilized) is passed into the stomach; when the openings have been made in the biliary tract and gastro-intestinal tract the tube is pulled through "the newly formed stoma" until the tip of the catheter is well within the lumen of the obstructed segment of the biliary tract. The anastomosis is made around the tube. When the anastomosis is completed, before closing the abdomen, 20 to 50 cc. of diodrast is introduced into the external orifice of the Levine tube, and an x-ray picture is taken; this shows whether or not the bile ducts are patent, or the site of the obstruction if present, and also whether there is any leakage at the suture line. If there is any such leakage, this defect in the anastomosis is repaired before closing the abdomen. In the post-operative period continuous suction is carried out through the Levine tube to free the bile ducts of thick, viscid bile; aspirating lavages may also be employed to remove mucus, "biliary sand", blood clots or pus, thus keeping the ducts "completely decompressed" and maintaining adequate

biliary drainage. Cholangiograms are made on the seventh to tenth postoperative days; if these show that the bile ducts are patent and functioning, and if the bile is normal in appearance, the Levine tube is removed. Excellent results have been obtained with this method; in case where operation was done for biliary obstruction caused by carcinoma of the pancreas, choledochenterostomy was found to be more effective than cholecystenterostomy.

COMMENT

The method recommended by the authors of this paper is novel and of special interest

to abdominal surgeons, considering the success attending its use as reported in the article.

However, the Levine tube will no doubt continue to fulfill its most valuable forte in gastric siphonage. The method entails technical difficulties and it's a moot question whether the results are actually worth the effort. Certainly the very commonly performed cholecysto- or choledochojejunostomy works well and the Levine tube would hardly be practical in this type of anastomosis. Further results in the use of this suggested method will be watched with interest.

T.M.B.

UROLOGY

Carcinoma of the Prostate Gland

P. J. KAHLE and H. T. BEACHAM (*Urologic and Cutaneous Review*, 48:1, Jan. 1944) report a study of 342 cases of carcinoma of the prostate treated at the Charity Hospital, New Orleans, in the last four years, with a special study of the 88 cases in which death occurred in the hospital. In these 88 cases the estimated duration of the disease varied from less than one month to six to ten years; in most cases symptoms had been present "well over a year" before the patient sought treatment; 32 had had no treatment at all before they were admitted to the hospital with acute retention. In 77 cases in which a definite history could be secured symptoms were directly related to the genito-urinary tract in 55; 13 of these patients showed symptoms "suggestive of metastases." Urinary obstruction was not an early symptom as a rule; this is attributed to the fact that carcinoma often originates in the posterior lobe. While delay in diagnosis in these cases was often due to the fact that the patient did not seek medical advice for minor symptoms, it was due in some instances to the neglect of rectal examination by the physician. Early diagnosis of cancer of the prostate, the authors believe, can be made only if routine rectal examinations are made on all men over 50 years of age who consult physicians, whether they have symptoms related to the genito-urinary tract or not. At the present time radical perineal prostatectomy is possible in only "a minimal number" of cases of cancer of the prostate.

Transurethral resection is indicated for the relief of obstruction. Recently castration and the use of stilbestrol therapy have resulted in relief of pain, regression of metastases, regression of the local tumor and "at least temporary improvement" in general health. The authors have attained these results in all patients treated with stilbestrol in adequate dosage, and prefer this method to castration. Neither method is curative.

COMMENT

It is again the oft-told tale, not the thrice-told tale, of early diagnosis. How are patients to learn that functional changes are worthy of physical examination long before symptoms appear? How are they to learn that pain is not the one great symptom for relief? Consistent early diagnosis is probably one-third part of the cancer problem because it leads to early treatment and competent after treatment.

V.C.P.

The Effects of Pyridium in Certain Urogenital Infections

T. J. KIRWIN, O. S. LOWSLEY and J. MENNING (*American Journal of Surgery*, 62:330, Dec. 1943) report the use of pyridium in the treatment of 118 cases of urinary tract infection. The usual dosage of this drug was two tablets of 0.1 gm each given three times a day for at least two weeks. The symptoms characteristic of urogenital infections were relieved as follows: Pain on urination was entirely or greatly relieved in 95.3 per cent of cases; burning on urination was

relieved in 93.6 per cent; frequency of urination became normal or nearly so in 85 per cent; nocturia was eliminated or reduced in 83.7 per cent. Frequent examinations of the urine showed a reduction of the organized urinary sediment in 55.1 per cent of cases. In a number of cases, therefore, there was a complete or almost complete relief of symptoms without any demonstrable reduction in the organized urinary sediment. No toxic symptoms were noted with the dosage of pyridium used. The authors conclude that pyridium is "a valuable addition to the physician's weapons against infections of the urinary tract," and that it can be given in effective therapeutic doses throughout the course of common urogenital infections, "with complete safety."

COMMENT

This is a far reaching study well carried out. Of all the advantages stated the most important in my opinion (although, of course, all the advantages are important) is the absence of irritation of the kidneys. So many of the modern urinary drugs do throw down casts and epithelium and albumin that they thus become definitely hazardous.

V.C.P.

The Treatment of Resistant Gonorrhea With Induced Hyperthermia Supplemented by Sulfonamide Therapy

J. H. HARRISON, T. W. BOTSFORD and F. P. ROSS (*Journal of Urology*, 51:215, Feb. 1944) report the treatment of gonorrhea in men with combined fever therapy and sulfonamide. This method is used only when the infection does not clear up promptly under treatment with sulfonamide alone; and only for those patients who show no signs of hypersensitivity

to the sulfonamides. No sulfonamide should be given for at least seven days before starting the combined treatment. The night before the fever treatment is to be given, 3 gm. of sulfathiazole or sulfadiazine are given, and another 2 gm. one hour before the fever treatment. The patient is kept in the fever cabinet until the body temperature has been maintained at 106° to 107° F. for seven hours. During this period 0.8 per cent salt solution is

given by mouth, dextrose solution intravenously, other fluids (fruit juices, milk, water) are given freely, and sodium bicarbonate for gastric distress. The body temperature is reduced if it rises above 107° F. Tests for cure—including two-glass urine tests, urine analysis, cultures and smears from the prostatic-vesical secretions after the discharge has ceased—are carried out repeatedly beginning three to four days after fever therapy. Of 300 patients treated by this method, 253 patients were cured, 203 by one com-

bined treatment, 42 by a second treatment (with fever for eight hours); 5 required three treatments and 3 required four treatments. Fifteen patients would not tolerate a second course of fever therapy. Twenty-two patients were improved but not cured, as smears and cultures remained positive, even after repeated treatments. In 10 cases the treatment was "a total failure."

COMMENT

Of all the proofs which this paper contains the most notable is that having to do with the virulence, resistance, penetration and dangers of the genococcus.

V.C.P.

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A Technique of Prostatic Biopsy

A. A. ROTH and HENRY TURKEL (*Journal of Urology*, 51:66, Jan. 1944) describe a method of prostatic biopsy that is used chiefly for the diagnosis of prostatic carcinoma. The sheath of the instrument used consists of a tube with a cutting edge at the beveled end and an obturator; the inner sheath has a serrated edge that cuts the tissue when it is turned in a clockwise direction. If only biopsy is to be done, pentothal sodium anesthesia is sufficient; if a major surgical procedure is contemplated, spinal anesthesia or other suitable anesthesia may be used. With the patient in the lithotomy position, a nick is made with an abscess scalpel "to facilitate entrance of the instrument." The index finger of the operator's left hand is introduced into the rectum to guide the instrument as it enters the prostate. The outer sheath with the obturator is advanced until it "just enters" the prostate; then the obturator is withdrawn and the inner sheath introduced. As the latter is advanced through the prostate with a

clockwise rotary motion, the finger in the rectum is passed to the proximal portion of the prostate and "hooked" above it, thus giving counter-resistance to the cutting instrument. A section of tissue about 2.5 cm. in length has been removed in some of the authors' cases. A coagulating electrode may be employed to stop bleeding after the inner sheath of the instrument is removed but the authors have not found this to be necessary. This method has been found of special value in the diagnosis of early carcinoma of the prostate, because tissue is obtained from the posterior lamellae, which cannot be reached by transurethral resection.

COMMENT

One question is, does this instrument differ materially from Hugh Young's prostatic punch, which appeared perhaps twenty-five years ago? Its design and application seem to be the same. The chief limitation may be that it will not cut out a diagnostic specimen if the cancer begins deep in the acini of the prostate and, therefore, not within reach of the cut. V.C.P.

GYNECOLOGY

The Comparative Value of Endometrial Biopsies and Vaginal Smears

THEODORE NEUSTAEDTER and L. L. MACKENZIE (*American Journal of Obstetrics and Gynecology*, 47:81, Jan. 1944) from a comparison of the vaginal smear and the endometrial biopsy come to the conclusion that the technique of obtaining and preparing the vaginal smear is simple and causes the patient no discomfort or inconvenience. The vaginal smear in most instances gives correct information in regard to estrogen in the proliferative phase of the cycle, but it is difficult and often impossible to evaluate the smear in regard to the progestational phase of the cycle. If it is necessary to have definite information in regard to progesterone activity or ovulation, the endometrial biopsy is the only reliable indicator.

COMMENT

Such comparative studies are worth while because it has been said, on fairly good authority, that vaginal smears "tell everything" that endometrial biopsies do. This, of course,

is not true and this study adds more positive data to what we already know. The study of comparative physiology always helps in such problems.

H.B.M.

Carcinoma of the Cervix— The Wertheim Operation

J. V. MEIGS (*Surgery, Gynecology and Obstetrics*, 78:195, Feb. 1944) reports 53 cases of carcinoma of the cervix in which the Wertheim operation, combined with the Taussig method of dissecting the pelvic lymph nodes, was done. In 47 cases the operation was elective; in 6 cases it was done after radiation had failed. The elective operation is indicated only if the patient is relatively young, in good general health and not obese, and if the cancer is in an early stage. The patient is admitted to the hospital four or five days before operation for preoperative treatment, including bringing the blood chemistry to normal, blood transfusions in many cases and vitamins in large quantities. In addition sulfadiazine is given for two days before operation, in doses of 1

gm. every four hours; this therapy is continued after operation as soon as the patient can take the drug by mouth and continued for seven days. At operation 4 gm. of sulfanilamide are placed in the "large pelvic defect" resulting from the operative procedure. In the 47 cases in which operation was elective, there were no postoperative deaths; in 8 of these cases, or 17 per cent, metastases were found in iliac, ureteral or obturator lymph nodes, although the primary tumor was in a "very early stage." In the 6 cases in which operation was not elective, there was one postoperative death; this was the only case in which preoperative sulfonamide therapy was not given. The most serious complications of the Wertheim operation involve the urinary tract, but in most cases these subside; however, in 5 of the 47 elective operations, ureteral fistula developed. The operations have been done too recently to determine five year results, but of the 47 patients in the elective group, 5 are living more than three years and 4 more than two years; only 3 have died of cancer. The author is of the opinion that the Wertheim operation with Taussig lymph node dissection, "with all the precautions of modern surgery," will have a low mortality rate, and will give better end results than radiation in many early cases of carcinoma of the cervix, especially in those with lymph node metastases.

COMMENT

This report is of no value in so far as end-results in cervical cancer are concerned. The author stated this fact but believes, as we do, that his primary results are excellent and that the Wertheim-Taussig procedures offer good results in proper hands. These operations require the highest surgical skill and judgment.

H.B.M.

Pelvic Inflammatory Disease of Specific Origin

H. E. MILLER (*American Journal of Obstetrics and Gynecology*, 47:245, Feb. 1944) presents a study of two series of cases of gonorrheal pelvic inflammatory disease treated at the Charity Hospital in New Orleans. The first series of 6184 cases was reported in 1927 and 1928; the mortality was 2.5 per cent. In a second series of 3,072 cases treated in a recent approximately three year period, the mortality was slightly less than 1 per cent. In both series the majority of patients

were Negroes and the disease in the Negro women was usually of a more serious type, owing to neglect. Operation was found to be necessary in a large proportion of these cases, conservative measures having failed. A comparison of recent surgical cases with those from the former series shows that the recent reduction in mortality is to be attributed to a number of factors. The chief factors are: Free use of fluids before and after operation, especially parenteral fluids; the free use of transfusions; treatment to correct mild degrees of anemia, protein and vitamin deficiencies; intestinal decompression when indicated to prevent ileus; measures to prevent pulmonary complications; employment of drainage only on definite indications. Chemotherapy was used in the recent series of cases and was an effective adjunct in properly selected cases; in the author's opinion it "played only a minor part" in the improved results. Radical operations — bilateral salpingectomy and hysterectomy—were done more frequently in the recent series of cases than in the earlier series, but supravaginal hysterectomy was done in all poor risk cases.

COMMENT

Chronic pelvic inflammatory disease of specific origin is a very disabling lesion. Nothing, it seems to me, is more disappointing to the patient and disheartening to the gynecologist than to have to "remove everything" from the pelvis of a young woman because of a previous gonorrheal infection. Dr. Miller's two series of such cases show the improvement that would be expected with more experience—and the newer concepts and chemotherapy. We have employed the factors enumerated as being the reasons for the improvement in the last series of cases for many years and can vouch for their efficacy. Chemotherapy, we agree, does no good except early in the acute stage of the disease. We almost never drain such cases—usually if drainage is indicated, hysterectomy with double salpingo-oophorectomy should be delayed. Time is the most important single factor.

H.B.M.

Myometrial Hypertrophy (So-Called Fibrosis Uteri)

J. T. WILLIAMS and T. D. KINNEY (*American Journal of Obstetrics and Gynecology*, 47:380, March 1944) report 10 cases in which the chief symptom was prolonged uterine bleeding persisting be-

yond the normal menstrual period or occurring between periods; the bleeding was not as a rule excessive in amount. One of the patients was twenty-five years of age, the others between thirty-seven and fifty-one years of age; all had borne children. The uterus was symmetrically enlarged in all these patients and hysterectomy was done on a diagnosis of fibroid tumor. At operation it was found that the uterus had thickened walls, but no localized tumor formation. Histological examination showed that the thickening of the uterine wall in these cases was not due to an increase in the fibrous tissue, but to an increase in the size of the muscle fibers. The etiological factor responsible for this hypertrophy and for the bleeding has not been determined; it may be

"an estrogen effect" possibly due to an imbalance between estrogen and progesterone. On the basis of the histological findings in these cases, the authors suggest the designation myometrial hypertrophy instead of the terms formerly used: fibrosis uteri, chronic metritis, arteriosclerosis uteri and metrorrhagia myopathica.

COMMENT

We agree 100 per cent that myometrial hypertrophy is a better term than fibrosis uteri or any of the various names by which this pathologic picture has been designated. It is pathologically correct. We wish the authors could have stated definitely the cause of the abnormal uterine bleeding in the presence of myometrial hypertrophy of the uterus.

H.B.M.

OBSTETRICS

Continuous Drip Caudal Anesthesia

NATHAN BLOCK (*American Journal of Obstetrics and Gynecology*, 47:331, March 1944) reports the use of continuous drip caudal anesthesia in 150 pelvic deliveries and 35 surgical procedures including 17 cesarean sections; this includes cases reported in 1943. In the latter part of the series, some changes in technique have been made which have proved advantageous. A 2 per cent solution of procaine given at a rate of 8 to 12 drops per minute has been substituted for a 1 per cent solution given at a rate of 15 to 20 drops per minute; this has given equally satisfactory anesthesia with less tendency to a sudden drop in blood pressure with "shock-like" symptoms. A new hubless 17 gauge malleable spinal needle has been employed in the more recent cases. The saline rate test—which indicates whether the rate of flow is of the caudal or spinal type—has been used to avoid "inadvertent spinal injection." In the 150 pelvic deliveries with caudal anesthesia, there have been no maternal deaths and no fetal deaths due to the anesthetic (confirmed by autopsy findings). The first stage of labor was shortened and "almost painless;" patients were delivered without other anesthesia, with decreased blood loss; there was no fetal distress. In the 17 cesarean sections, satisfactory anesthesia was obtained and there were no maternal

or fetal deaths. The "palm test," described in the previous report, has eliminated complete failure due to subcutaneous instead of caudal injection.

COMMENT

Continuous caudal anesthesia is not the final answer to an ideal obstetric analgesic and anesthetic. The technic of administration is far from satisfactory. For this reason it is not without danger to the mother. Apparently the fetus is not affected; spontaneous "crying" is the rule. It definitely increases the incidence of forceps delivery. On the other hand, it promotes dilatation of the cervix. It lessens the incidence of postpartum hemorrhage as against other methods, plus inhalation anesthesia. It has other advantages, but, until a better technic for its administration is devised and more physicians are trained in this technic, continuous caudal anesthesia in obstetrics should continue to be a hospital procedure under the direction of a "seasoned" anesthetist. Most certainly it should not be employed in the home.

H.B.M.

Demerol (S-140) and Scopolamine in Labor

W. R. SCHUMAN (*American Journal of Obstetrics and Gynecology*, 47:93, Jan. 1944) reports the use of demerol and scopolamine as an analgesic in labor in 1,000 cases. Demerol is a synthetic drug the action of which is analogous to both the atropine and the morphine series. It

relaxes smooth muscle rather than causing spasm, in which it differs from morphine. In the usual case demerol 100 mg. and scopolamine 1/100 grain was given by intramuscular injection when the patient "begins to mind her pains"; another injection of scopolamine (1/100 grain) was given forty-five minutes later. Four hours later a second injection of demerol (100 mg.) with scopolamine 1/200 grain was given; subsequently demerol 100 mg. was given every four hours, if indicated, and scopolamine 1/200 gr. every two hours. In multiparas admitted in active labor whose delivery was expected within two hours, demerol 100 mg. and scopolamine 1/100 gr. were given by slow intravenous injection, or, in the earlier cases, half the dose was given intravenously and half intramuscularly. The same method of intravenous administration was employed as premedication in cesarean section forty-five minutes before the induction of anesthesia. Satisfactory amnesia was obtained in 70.5 per cent of all cases; if cases receiving demerol and scopolamine too late or too infrequently are excluded, the percentage of satisfactory amnesia rises to 90.4 per cent. There was a definite reduction in the duration of labor in these cases as compared with that in 500 patients delivered in the hospital who were given barbiturates for analgesia. Demerol and scopolamine proved satisfactory for preanesthetic medication; the amount of anesthesia required was approximately the same as with barbiturate premedication and there were no pulmonary complications. Demerol had no demonstrable depressant effect on the infant, whether full-term or premature. When the drug was given intravenously, nausea and occasional vomiting occurred in about one-fourth of the patients, even though the injection was given slowly. Otherwise there was no undesirable side effect on the mother. On the basis of these results the author considers demerol with scopolamine is "superior as an obstetrical analgesic to other analgesics in common use."

COMMENT

"Good old morphine!"—we wonder if there will ever be a drug to take its place. Demerol, in the few cases we have used it, certainly does not displace morphine for obstetric analgesia. In only one respect is it, perhaps, superior to morphine and that is in its

effects upon the baby—it apparently has none, no matter how frequently nor how near "delivery time" it is given. Well! morphine, in our experience of some twenty-five years, has little or no effect on the baby if administered properly. However, until more experience with demerol in labor has been accumulated, we feel extreme care should be exercised by those outside of well equipped hospitals. This is not to say that demerol and scopolamine in labor are "no good". Dr. Schumann has demonstrated in 1000 cases that they are "good".

H.B.M.

Some Studies on the Rh Factor and Its Significance in Obstetrical Practice

G. J. E. VAN DORSSER, A. W. MORRISON and N. W. PHILPOTT (*Canadian Medical Association Journal*, 50:219, March 1944) report that in 1,190 tests for the Rh factor, 177, or 15 per cent, were Rh negative. In the 475 women tested, the percentage of pregnancies terminating in abortion, miscarriage or fetal death was definitely higher in Rh negative women (21 per cent) than in the Rh positive women (13.3 per cent). In the women having one or more "fetal mishaps," the percentage of complications was higher in the Rh-negative group than in the Rh positive group (50 per cent as compared with 35 per cent). The average number of pregnancies in this group having "fetal mishaps" was almost double that in the group with normal termination of pregnancy. The Rh-negative woman does not appear to be in more danger of losing her child in the first two or three pregnancies than the Rh-positive woman. However, the danger increases in successive pregnancies. There were several cases in this series, however, in which an Rh-negative mother had been delivered of 7 or more living and normal children, and in these cases one or more of the children were Rh-positive. There were 4 cases of erythroblastosis fetalis in this series, in one of which the mother was Rh-positive; in this case the erythroblastosis was apparently the result of isoimmunization of an A₂ mother against A₁ cells of the fetus inherited from the father. Of 85 Rh-negative women delivered at the hospital, 34 had infants who were also Rh-negative. In 8 of the women with Rh-Positive infants, titration for anti-Rh agglutinins was not done. Of the remaining 43 women, 10 had no demonstrable anti-Rh agglutinins at either 7° or 37°C. Agglu-

tinins were more frequently demonstrated at 7°C than at 37°C in the other 33 cases.

COMMENT

Studies such as the authors have made are important and instructive. The last word about the Rh factor has not been said; and, by such studies, more clinical information is coupled with the laboratory data that have been accumulating for some years. Every prospective mother and father should have their Rh factors determined, also their blood group, and the result recorded on the mother's chart. In any emergency much time can thus be saved. Don't transfuse a delivered mother unless the Rh factor is known — unless, of course, it is a question of "life or death".

H.B.M.

The Oral Treatment of Ovarian Deficiency with Conjugated Estrogens-Equine

F. E. HARDING (*Western Journal of Surgery, Obstetrics and Gynecology*, 52:31, Jan. 1944) reports the use of conjugated estrogens-equine given by mouth in 138 patients, chiefly women with menopausal symptoms. This estrogen preparation was effective in relieving the menopausal symptoms in most cases. In the natural menopause, 1.25 mg. (one tablet) daily was usually sufficient. In the artificial menopause a higher dosage was often required. When the dosage used was sufficient, vaginal smears were restored to normal. There were no toxic symptoms and many patients reported a feeling of increasing well-being. In younger women adequate dosage of estrogens-equine often relieved migraine headache, mental depression and other symptoms; menstrual irregularity was often produced, but the menstrual cycle returned to normal when treatment was discontinued. The author concludes that the concentrated estrogens-equine preparation has the advantage of having effective estrogenic action when given by mouth without the toxic effects observed with synthetic estrogens.

COMMENT

The conjugated estrogens-equine, given orally, are potent, which is advantageous to both physician and patient. Synthetic estrogens are potent enough (too potent in dosage recommended!) but have the disadvantage of producing unpleasant side effects. However, we have always believed that "overdosage" was the main reason for these untoward effects. We never employ more than

0.5 mg. three times a day and often less with good results. In many cases the "natural" estrogens work better; and, except for the cost, we would prefer their use exclusively. Don't keep giving any estrogen over too long a period of time—we've seen some unpleasant results.

H.B.M.

Sixteen Years' Experience with Placenta Praevia

W. L. EKAS (*New York State Journal of Medicine*, 44:385, Feb. 15, 1944) reports 86 cases of placenta praevia; 95.3 per cent were treated by conservative measures. The Voorhees bag was used in 76.6 per cent. Version and extraction were done in some cases. There were 2 maternal deaths in this series, a maternal mortality of 2.32 per cent; one of the deaths was due to infection, one to thrombophlebitis and embolism developing after discharge from the hospital. Thirty-four patients, or 40 per cent, had a febrile puerperium. The uncorrected fetal mortality was 55.8 per cent; of the 27 infants stillborn 9 were premature and 10 immature. Prematurity was also an important factor in neonatal deaths. On the basis of his experience with placenta praevia, the author considers that every patient with placenta previa should be hospitalized; vaginal examinations should not be made until preparations are made to control bleeding and to give a blood and/or plasma transfusion when indicated. A careful technique should be used to prevent infection. In the large majority of cases the author believes placenta praevia can be treated by conservative measures. Cesarean section is indicated only in selected cases.

COMMENT

There is no expectant treatment of placenta praevia. There is, however, conservative treatment—for certainly not every placenta praevia needs cesarean section. Each case must be individualized and treated conservatively or radically. We have used the Voorhees' bag for many years and, if indicated, it is a sound method of management—better for the control of hemorrhage and dilatation of cervix and far better for the baby than version and bringing down a foot. Again, parity is very important. We rarely do section in multiparous women, unless it be for central placenta praevia or the lateral type with profuse hemorrhage. Transfusion (blood) and/or plasma must be at hand and given freely. Never "tackle" a bleeding pregnant mother in the home.

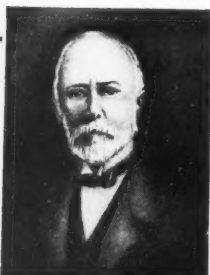
H.B.M.

Medical BOOK NEWS

Edited by

ALFRED E. SHIPLEY, M.D., Dr. P.H.

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, 16, N. Y.



SIR JAMES MACKENZIE
1853 ~ 1925

Classical Quotations

● Common sense would say that where the signs of disease are the most difficult to make out, and the hope of cure is at its highest, the most experienced physicians would be employed and that all the aids of laboratory technique would be at hand to help in the recognition of the disease. In no teaching institution is this ever done. . . . On the other hand, in the wards where disease has advanced so far as to produce physical or other demonstrable signs, mostly easy of recognition, we have the trained physician, the research student and all the paraphernalia of laboratory assistance.

SIR JAMES MACKENZIE

Quoted by R. McNair Wilson in *British Medicine*, page 41; London, Collins, 1911.

New Edition of Cecil

Textbook of Medicine. Edited by Russell L. Cecil, M.D. Associate Editor for Diseases of the Nervous System, Foster Kennedy, M.D. 6th Edition. Philadelphia, W. B. Saunders Co., [c. 1943]. 1565 pages, illustrated, 4to. Cloth, \$9.50.

THIS is one of the standard textbooks of medicine and well merits the very high place which it has assumed in this field. As must be the case, in view of the progress which has been made in medicine, new chapters have been added in order to enhance the value of the book. New authors have rewritten some of the sections and have maintained the previous high standard. The format of the book has been altered in order to facilitate reading. All the changes are valuable and maintain its high standing, both as a text-

book for students and as a reference book for practicing physicians.

J. HAMILTON CRAWFORD

Concerning Strophanthus

Strophanthin. Clinical and Experimental Experiences of the Past 25 Years. By Bruno Kisch, M.D. New York, Brooklyn Medical Press, Inc., [c. 1944]. 158 pages, illustrated. 8vo. Cloth, \$4.00.

IN this volume Bruno Kisch, formerly of Cologne, champions the cause of Strophanthin in the hope of popularizing its use, and interestingly cites the objections of Americans.

A personal note colors the preface, but in the body of the book there is a presentation of a wealth of information concerning Strophanthus. The chapters on clinical application interest the physician most. In brief, intravenously its use in emergencies has been long appreciated. Heavy dosage is warned against, but the value of the drug is stressed and further clinical trial urged.

FRANK BETHEL CROSS

Parsons' Ophthalmology

Diseases of the Eye. 3y Sir John Herbert Parsons, M.D. 10th Edition. New York, Macmillan Co., [c. 1942]. 726 pages, illustrated. 8 vo. Cloth, \$6.50.

THIS book has again been revised and brought up to date where changes were required after an interval of four years since the ninth edition. Its format is unchanged and the table of contents reads the same as it has through many editions, but this revision has been done with the assistance of H. B. Stallard, whose name thus appears on the title page.

Chief changes are those relating to surgery of the eye, in which Mr. Stallard has played so large a part, and in therapeutics along the line of treatment with the vitamins and the sulphonamides. The rest of the book remains substantially the same, and with its copious illustrations and good index is a good book for both the general practitioner and the eye man to have.

E. CLIFFORD PLACE

MEDICAL TIMES, JULY, 1944

Manikin Obstetrics

The Mechanics of Obstetrics. By Norris W. Vaux, M.D., and Mario A. Castallo, M.D. Philadelphia, F. A. Davis Co., [c. 1943]. 217 pages, illustrated. 8vo. Cloth, \$4.00.

CLEAR and simple is this little manual used by the students at Jefferson. Fundamentals only are included, as it is intended as a guide for practice on the manikin, or as our Philadelphia friends say, the mannequin. No controversial questions are raised, except in the case of management of the second of twins. Handsomely illustrated and printed on very heavy paper, this little book is excellent for the beginner in obstetrics.

CHARLES A. GORDON

Neuro-Digestive Conditions

Nervousness, Indigestion and Pain. By Walter C. Alvarez, M.D. New York, Paul B. Hoeber, Inc., [c. 1943]. 488 pages. 8vo. Cloth, \$5.00.

CERTAINLY the author has long before this deserved the title "The philosopher in gastro-enterology." This latest work of his emphasizes the tremendous importance of the nervous system and emotional reactions in the production of symptoms which may resemble most any organic syndrome. One reads this book and chuckles to himself recalling so many similar incidents seen in his own practice, as described by the author. In these days of stress and strain this book is most timely, added to the fact that the medical profession more and more is learning to appreciate and understand the factors underlying functional disturbances particularly affecting the gastro-intestinal tract, their mode of production, and the necessity for treating them in a sympathetic and understanding manner. Truly, indeed, the general practitioner as well as the gastro-enterologist and internist as well must become "practitioners in psychotherapy."

B. M. BERNSTEIN

Psychopathology

The Nature and Treatment of Mental Disorders. By Dom Thomas Verner Moore, M.D. New York, Grune & Stratton, [c. 1943]. 312 pages. 8vo. Cloth, \$4.00.

IN this book one happily finds a commendable objectivity in the evaluation of the various schools of psychopathology. The discriminating student of psychiatry will relish the scientific dissection of various concepts with special attention to Freud, Jung, Adler and Alexander. The author maintains a wholesome eclectic ap-

proach which emulates the methodology of seeking the facts and letting them speak for themselves.

Dr. Moore describes various reaction types chosen to illustrate concepts of mental disorder as well as techniques of therapy. Utilizing tetrachoric correlation, the author obtains mathematically-determined syndromes which conform fairly well to various clinical entities derived from Kraepelin.

The volume is divided into four parts: psychopathology (concepts and principles), therapy and psychological analysis (free association, dream analysis), miscellaneous techniques, and organic emotional disorders (physiology and pharmacological treatment of mental disorders). The serious minded student of psychiatry would do well to acquaint himself with such a discriminating and practical book.

FREDRICK L. PATRY

Military Psychiatry

Psychiatry in War. By Emilio Mira, M.D. New York, W. W. Norton & Co., [c. 1943]. 206 pages, illustrated. 8vo. Cloth, \$2.75.

NEURO-psychiatric disorders in the present war have already become a serious problem. Increasing numbers of service men have become sick with neuro-psychiatric disease. It is now quite apparent that the Civil War in Spain was really a miniature world war which was used by the Axis powers in preparation for the present world conflict.

Neuro-psychiatric disorders among loyal troops of Spain presented the usual problems of such cases. Dr. Mira who was Professor of Psychiatry at the University of Barcelona has had a rich experience with these patients. He published his experiences in the book. It is a rather interesting small volume which was written in an atmosphere of war while he was traveling over the American Continent and finally came to New York to deliver the 1942 Salmon Memorial Lectures. This book should have a wide appeal to all who are interested in the subject.

IRVING J. SANDS

A Famous Epidemiologist

Trail to Light. A Biography of Joseph Goldberger. By Robert P. Parsons. New York, The Bobbs-Merrill Company, [c. 1943]. 352 pages. 8vo. Cloth, \$3.00.

THIS is an interesting though not an inspired biography of one of America's really great contributors to medical

knowledge. Many of the chapters are devoted to the work of Doctor Goldberger in the study of yellow fever, typhoid, dengue, parasitic diseases, typhus, measles, diphtheria, and finally to his greatest accomplishment, that of the establishment of the causation of pellagra. Despite the unquestioned importance of the actual discoveries of this Hungarian immigrant who rose out of the melting pot of New York's lower East Side, he will be remembered, in the opinion of this reviewer, not for these so much as for his contributions to the development of sound epidemiological methods for the study of all disease to which man is subject. It is unfortunate that in a biography of a man who was so meticulous and exact a few errors of fact, even if of minor nature, should have been allowed to creep into the text.

THOMAS D. DUBLIN

Orthopedics for Nurses

Orthopedic Nursing. By Robert V. Funsten, M.D. and Carmelita Calderwood, R.N., A.B. St. Louis, C. V. Mosby Co., [c. 1943]. 602 pages, illustrated. 8vo. Cloth, \$3.75.

A MOST timely book for the use of nurses engaged in war work and particularly in skeletal surgery. The work is comprehensive and basic. For example, the mechanics of Russell's traction is shown by diagram, and the principles explained. It would be well for some physicians to study this book.

JA. C. RUSHMORE

The Yellow Fever Episode

Memoir of Walter Reed. The Yellow Fever Episode. By Albert E. Truby, Brigadier General, U.S.A., Retired. New York, Paul B. Hoeber, Inc., [c. 1943]. 239 pages, illustrated. 12mo. Cloth, \$3.50.

THE practical demonstration of the cause of Yellow Fever, in which Walter Reed played so prominent a part, will remain always as a classic.

Dr. Truby, the author of this little book, now a retired Brigadier General, was in 1900 a young lieutenant in charge of the U. S. Hospital in Cuba where Reed and his colleagues conducted their experiments.

Dr. Truby with his personal knowledge of the demonstration, fortified by much delving into the many reports and writings on the subject, is able to give an accurate account of these experiments, and to give credit where credit is due.

The book, in addition to its historic importance, makes fascinating reading.

ALFRED E. SHIPLEY

Disease of the Tropics

Synopsis of Tropical Medicine. By Sir Philip Manson-Bahr, M.D. Baltimore, Williams & Wilkins Co. [c. 1943]. 224 pages, illustrated. 12 mo. Cloth, \$2.50.

THIS book gives in condensed, synoptic form the distribution, etiology, symptoms, pathology, diagnosis, and treatment of most diseases found in the tropics—bacterial and virus infections as well as protozoan and helminthic. Poisonous plants as well as venomous insects and reptiles are considered. There are four illustrative plates. Occasional statements are misleading:—"Benign tertian malaria . . . is still common . . . in North America (New Jersey)" "Sub-tertiary or malignant . . . has a restricted distribution . . . in the New World in the West Indies, Panama, and Brazil." The book contains a wealth of condensed information in handbook form which should render it valuable for ready reference and review.

ELBERTON J. TIFFANY

Cineticization

Cineplastic Operations on Stumps of the Upper Extremity. By Rudolf Nissen, M.D. and Ernst Bergmann, M.D. New York, Grune & Stratton, [c. 1942]. 88 pages, illustrated. 8vo. Cloth, \$3.75.

THIS little book of 88 pages, the history of the operations and bibliography included, is well written.

War conditions may produce an increase in those patients who have lost their hands, but cineplastic operations hardly deserve a book. A general surgeon's textbook describes these operations in a single chapter. They are simple and are easily enough performed by the general surgeon. What is needed is to make the surgeon realize their value in certain selected cases. This the authors try to accomplish.

More might have been written on phalangization of the first metacarpal bone. This particular operation is not well known. Surgeons should become better acquainted with it.

WALTER A. COAKLEY

Squint

Strabismus. Its Etiology and Treatment. By Oscar Wilkinson, M.D., and Richard W. Wilkinson, M.D. 2nd Edition, Revised. Boston, Meador Publishing Company, [c. 1943]. 369 pages, illustrated. 8vo. Cloth, \$4.00.

THE second edition of this well known book is not a radical revision of the original. This is mainly due to the fact that little, if any, progress has been made in our knowledge of the subject in the

past few years. We are in the habit of looking upon ophthalmology as a combination of art and science. To the reviewer's mind, our attitude towards strabismus is decidedly towards the artistic rather than the scientific. There is a serious dearth of well controlled scientific studies. Dr. Wilkinson does not take an unwarranted scientific stand for his subject. His work provides a broad view of this chaotic field. He follows a classical plan of presentation; his language is easily understood, and the illustrations are, for the most part, well selected. It is definitely apparent that Dr. Wilkinson is primarily interested in the surgical treatment of strabismus. He gives adequate attention, however, to the nonsurgical treatment.

JOHN N. EVANS

For the T. B. Patient

Tuberculosis as it Comes and Goes. By Edward W. Hayes, M.D. Livingston, N. Y., The Livingston Press, [c. 1943]. 187 pages, illustrated. 12mo. Cloth, \$2.00.

DR. Hayes has written a very interesting and instructive book for the benefit of all who are afflicted with Pulmonary Tuberculosis, and for all relatives and other laymen as well. It covers the subject thoroughly and is written in a manner which will in no way bewilder or confuse the average reader. Everything in it is sound and instructive, and it should, therefore, prove extremely helpful in securing better cooperation between doctor and patient. Your reviewer feels that it should be on the 'must list' of every individual whom tuberculosis has touched either directly or indirectly.

FOSTER MURRAY

Concise Book on Medicine

Internal Medicine in General Practice. By Robert Pratt McCombs, Lt., M. C. U. S. N. R. Philadelphia, W. B. Saunders Co., [c. 1943]. 694 pages, illustrated. 8vo. Cloth, \$7.00.

THIS is an attractive volume of about seven hundred pages, containing one hundred fourteen illustrations and fifteen tables. Its division into fifteen chapters is logical, and the print makes reading easy on the eyes. The subject matter, though condensed, is adequate for the general practitioner.

It is too condensed for student text book use. Those students in possession of this volume will find it very convenient and profitable for review after completing the

assigned work in the standard text. It is right up to date as witness a discussion of Penicillin. All in all it is a book very worth while.

S. R. BLATTEIS

Abnormal Behavior

Contemporary Psychopathology. A Source Book. Edited by Silvan S. Tomkins, Ph.D. Cambridge, Mass., Harvard Univ. Press, [c. 1943]. 600 pages. 8vo. Cloth, \$5.00.

THIS book is designed for courses in abnormal psychology. It is a survey of representative contemporary psychopathology, comprising the recent advance in research which appeared in many journals not readily accessible to readers. The important contributions to such varied fields as Physiology, Psychiatry, Psychoanalysis, Psychology, Anthropology and Sociology are mentioned. In all, there are forty-five contributions by fifty-four authors.

It is a valuable work which will have a wide appeal to physicians, neuropsychiatrists, sociologists, and others interested in human behavior. Psychiatrists cannot afford to be without it.

IRVING J. SANDS

Another Doctor Reminisces

A Surgeon's World. An Autobiography. By Max Thorek, M.D. Philadelphia, J. B. Lippincott Company, [c. 1943]. 410 pages. 8vo. Cloth, \$3.75.

THIS autobiography starts off in the stereotyped form of the account of youthful experiences,—including the story of an early love affair, which seems to have been permanent and mutually beneficial,—the trials and tribulations of a hardly won medical training and medical practice. Dr. Thorek achieved the goal of professional success and prominence and he has good reason to be proud of his varied accomplishments and distinctions. He has filled out his story with discussions of his experiences with the stars and satellites he met in his practice, with Voronoff and Steinach, (he did much experimenting himself). He has included a very readable chapter on the history of medicine, entitled, "A Goodly Company," and ends up with a theological climax on monotheism and life in the hereafter. Well, that about covers everything, except why he had to operate on himself for a spreading infection of his arm.

JOSEPH RAPHAEL

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review noted will be promptly published shortly after acknowledgment of receipt has been made in this column.

Rose's Foundations of Nutrition. Revised by Grace MacLeod, Ph.D. and Clara Mae Taylor, Ph.D. New York, The Macmillan Company, [c. 1944]. 594 pages, illustrated. 8vo. Cloth, \$3.75.

Principles of Behavior. By Clark L. Hull. New York, D. Appleton-Century Company, [c. 1944]. 422 pages, illustrated. 8vo. Cloth, \$4.00.

A Text-Book of Pathology. By E. T. Bell, M.D., B. J. Clawson, M.D. and J. S. McCartney, M.D. Fifth Edition. Edited by E. T. Bell, M.D. Philadelphia, Lea & Febiger, [c. 1944]. 862 pages, illustrated. 8vo. Cloth, \$9.50.

The Jesus and Medicine Essays. By Harry Friedenwald, M.D. [In two volumes]. Baltimore, Johns Hopkins Press, [c. 1944]. 817 pages illustrated. 8vo. Cloth, \$3.75 per vol.; \$7.50 per set.

Clinics. Vol. II, February, 1944, No. 5. Edited by George Morris Piersol, M.D. Philadelphia, J. B. Lippincott Company, [c. 1944]. 266 pages, illustrated. 8vo. Published Bi-Monthly. Paper, \$12.00 by subscription, \$2.00, single copy. Cloth, \$16.00 by subscription, \$3.00, single copy.

Health for the Having. A Handbook for Physical Fitness. By William R. P. Emerson, M.D. New York, The Macmillan Company, [c. 1944]. 146 pages. 12mo. Cloth, \$1.75.

Vertebrate Photoreceptors. By Samuel D. Detweiler. New York, The Macmillan Company, [c. 1943]. 184 pages, illustrated. 8vo. Cloth, \$4.00.

Baby Doctor. By Isaac A. Abt. M.D. New York, Whittlesey House, [c. 1944]. 310 pages, illustrated. 8vo. Cloth, \$2.50.

Laboratory Methods of the United States Army. Fifth Edition. Edited by Brig. Gen. James Stevens Simmons, U.S.A. and Col. Cleon J. Gentzkow, M.C., U.S.A. Philadelphia, Lea & Febiger, [c. 1944]. 823 pages, illustrated. 8vo. Cloth, \$7.50.

The Principles and Practice of Medicine. ORIGINALLY WRITTEN BY Sir William Osler, Bart, M.D., F.R.C.P., F.R.S. DESIGNED FOR THE USE OF PRACTITIONERS AND STUDENTS OF MEDICINE. By Henry A. Christian, M.D. 15th Edition. New York, D. Appleton-Century Co., Inc., [c. 1944]. 1498 pages. 8vo. Cloth, \$9.50.

Textbook of General Surgery. By Warren H. Cole, M.D. and Robert Elman, M.D. Fourth Edition. New York, D. Appleton-Century Company, Inc., [c. 1944]. 1118 pages, illustrated. 8vo. Cloth, \$10.00.

Female Endocrinology. Including Sections on the Male. By Jacob Hoffman, M.D. Philadelphia, W. B. Saunders Company, [c. 1944]. 788 pages, illustrated. 8vo. Cloth, \$10.00.

EULOGY OF THE DOCTOR

HERE are men and classes of men that stand above the common herd, the soldier, the sailor, the shepherd not infrequently, the artist rarely, rarer still the clergyman, the physician almost as a rule. He is the flower of our civilization and when that stage of man is done with, only to be marveled at in history he will be thought to have shared but little in the defects of the period and to have most notably exhibited the virtues of the race. Generosity he has, such as is possible only to those who practice an art and never to those who drive a trade: discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are most important, herculean cheerfulness and courage. So it is that, he brings air and cheer into the sick room and often enough, though not so often as he desires, brings healing.

by ROBERT LOUIS STEVENSON

Won't You Contribute to the

PHYSICIANS' HOME

52 EAST 66 STREET

NEW YORK 21, N. Y.

EDITORIALS

KENNON DUNHAM

WE deeply regret the death of Kennon Dunham, one of the first men to join our Board of Contributing Editors at the invitation of Dr. H. Sheridan Baketel, then Editor-In-Chief.

Our deceased colleague achieved eminence as a specialist in tuberculosis. A graduate of the University of Cincinnati Department of Medicine in 1894, his postgraduate and first research work was done at Johns Hopkins, having to do chiefly with the specific Roentgen markings characteristic of pulmonary tuberculosis. Further study in this field was done at Great Ormond Street Hospital and St. George's Hospital, London. After serving as assistant in medicine at Miami Medical College from 1896 to 1899 he assumed the professorship of electrotherapeutics in the University of Cincinnati Medical Department (1904-10). Then followed the directorship of the tuberculosis clinic (1914-40). He was head of the department of tuberculosis and associate professor of medicine in the Medical School of the University of Cincinnati and director of the tuberculosis service of the Cincinnati General Hospital until 1940. During World War I Dr. Dunham served as a major in the Army of the United States. His work, *Stereoroentgenography of Pulmonary Tuberculosis*, a standard authority in its field, was published in 1915.

A Warning Against Political Medicine

IN a series of legislative proposals the Commerce and Industry Association of New York makes the following wise recommendations on social security to the Congress of the United States:

If we are to protect our heritage in the United

MEDICAL TIMES, AUGUST, 1944



States, it is essential that we do not fool ourselves into believing that the people can live better lives if they lean upon and depend upon government to take care of them. If government tries to reach too far, it will defeat its own purpose and it will be reflected in taxation in some form or other, and the burden is certain to find its place in the standard of living which will move lower than it otherwise need go.

Wholesale schemes such as are being proposed for socializing medicine and every necessity of mankind which is socialized by burdening the community help no one in the end. The effect is to kill the incentive of those whose efforts, when exercised with enthusiasm, make jobs and opportunity for others; and on the other side it has a tendency to weaken the sense of responsibility of those who may be willing, with a little encouragement, to relax their own efforts and live off of others. However, the Government should plan for and carry out all possible measures to prevent and control plagues, infections and contagious diseases. Further, encouragement should be given to the establishment of sound, privately-operated, mutual insurance and hospitalization plans.

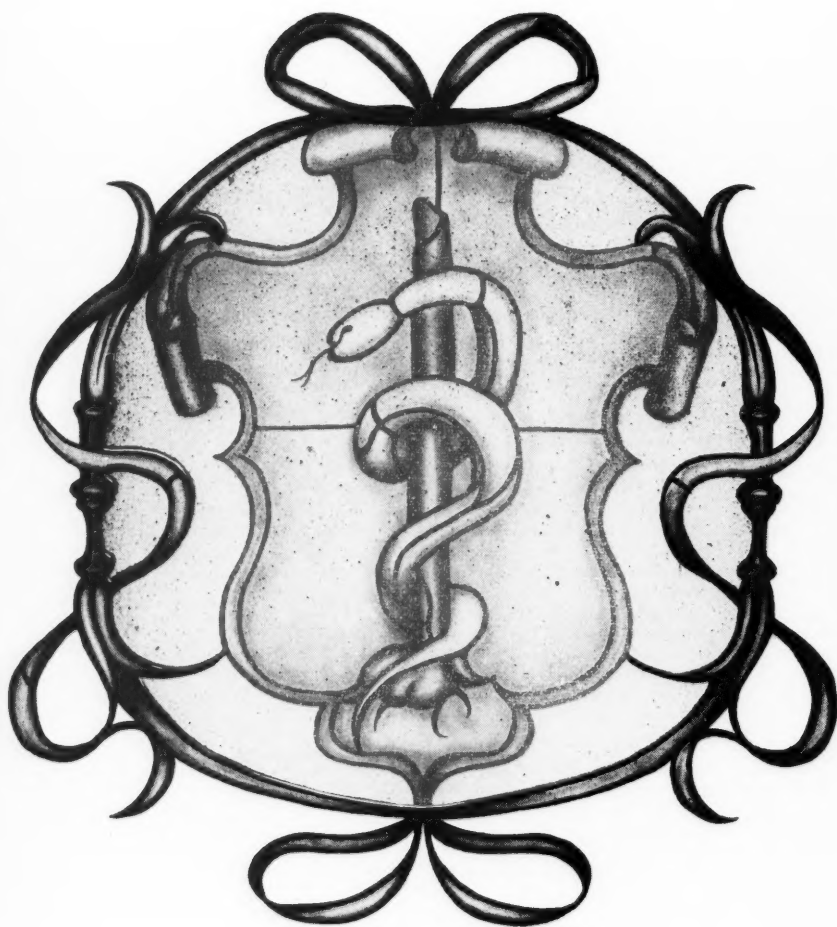
If we think that we can build a new world following the war, where individuality is lost, willingness to make individual effort is dissipated, and everyone is striving to live upon the fruits of the work of others, we will be building an edifice that may have Utopia over the front door, but that, when entered, will prove to be a house of chaos, uncertainty, and unhappiness.

War Wounded and Industrially Injured

RUTHERFORD T. JOHNSTONE, writing in the *Journal of the American Medical Association* of May 27, 1944, points out how the war front spurs us to action in meeting medical challenges when civilian conditions very similar to war front ones arouse no special effort in us. He thinks this anomalous but remediable.

It has been repeatedly pointed out that the toll of killed and injured in industry exceeds that of the war casualties. How was it possible to assemble an organization of complete medical care for war in such a short time? Because an aroused profession bent its utmost effort to meet the challenge. But what is the difference between the war wounded and the industrially injured? Should not the promotion of health and the saving of life be the same in the two instances? Cannot the profession be aroused to recognize the need to educate all doctors regarding industrial medicine? I think it can, and now is the time. Only when this occurs will there be an intelligent dispensation of medical care in industry and an equitable administration of workmen's compensation.

If we don't meet the home front chal-



The True Symbol of Medicine

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lenge now we may expect post-war industrial conditions including workmen's compensation administration to sag as always.

The Psychiatric Casualties of War

THE casualties of war are no longer reckoned simply in terms of amputations, fractures, gunshot wounds and burns but in terms of *millions* of men psychiatrically damaged who for long periods of the future will require treatment. According to Grinker and Spiegel of the Army Air Forces Medical Corps, we may also "expect for many years after the war that soldiers outwardly well, but carrying hidden weights of psychological conflicts and anxiety loads, will break under the stress of some trivial difficulty, some last straw."

The hero, it appears, is not fooled for a moment by the apotheosis upon his return home; for guilt reactions, it seems, are universal, nor can the hero forget his "terrible fears, the longing to escape from danger, the ever first thought of self-preservation, no matter how well these were repressed or that performance had actually been courageous or even daring."

Grinker and Spiegel go so far as to state that they "are convinced that the so-called well personnel differ from those whom we diagnose as sick and in need of definite psychiatric care, only by the quantity of emotional disturbance. Many of the

normal soldiers develop overt neurosis months later with the advent of some purely domestic or environmental difficulty while in their new assignments."

Moreover, Farrell and Appel of the Army Medical Corps have found that "anybody could develop a psychoneurosis under certain circumstances." Fatigue is the big factor that finally gets seasoned men down. "In one campaign the incidence of psychiatric cases was uniformly higher among veteran combat troops than among fresh, green troops."

It is estimated by Rennie of the Cornell University Medical Clinic that about sixty per cent of the men discharged from the armed forces and treated at his clinic might have been eliminated at the induction station, for they broke down within three months of beginning army training and fifteen per cent "were so sick they belonged in a hospital."

Forty per cent of the medically discharged are psychoneurotics who may, says Rennie, become chronic cases "costing the government \$35,000 each before they die."

Rennie's views seem conservative in the light of the evidence presented by the medical officers quoted in this editorial at the recent Philadelphia meeting of the American Psychiatric Association. However, the officers in question view their therapeutic results with narcosynthesis very optimistically.

CULTURAL MEDICINE

THE TRUE SYMBOL OF MEDICINE

THE unwinged staff with a single serpent is the sign and symbol of medicine and of its Grecian god, Aesculapius. The Roman caduceus is not such a sign, but is employed as an administrative symbol on the collars and chevrons of the Medical Corps of the Army of the United States. The caduceus merely implies the non-combatant status of the Corps in accordance with military usage; nevertheless this purely military and administrative symbol has too frequently become distorted into the sign of medicine (*vide* Arnold's paper in the *Bulletin of the History of*

Medicine, May, 1943).

Krumbhaar, editor of the American edition of Castiglione and Honorary President of the American Association of the History of Medicine, regards the adoption as an emblem, by the Medical Corps, of the caduceus, sign of Mercury, god of commerce and of thieves, as "not an altogether happy choice."

It would probably be impossible to cite a more persistent (and stupid) confusion of symbols in the whole range of American culture.

MASTURBATION IN BOTH SEXES

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New York, N. Y.

II. Masturbation in the Adult Female

WE may divide this subject into masturbation in unmarried females and masturbation in married females.

In the unmarried female the habit is initiated as a rule by prolonged spooning coexistent with long marriage engagements. Here the female is in a condition of prolonged sexual erethism and the outcome is often relief by masturbation. At times in the act of spooning the male titillates the clitoris, but no girl of good type would allow this. As in the male, the reading of erotic literature, viewing erotic movies and the like will excite the sexual sense and relief is sought by masturbation. It is true, of course, that many very young girls masturbate and some start at about puberty and continue the habit indefinitely, but in most cases the habit is initiated as above indicated.

In married adult females, the same reasons for starting the habit may be operative as in the unmarried, the habit simply continuing after marriage in spite of regular sexual connections. This as a rule occurs if the act of sexual intercourse is either unpleasant, painful, or does not bring on the sexual pleasure anticipated by the bride.

But one of the most frequent causes of masturbation in the female is the act of withdrawal by the male to prevent conception. As a general rule the orgasm in the female comes later than that in the male, and if he withdraws his penis before his own orgasm, his orgasm certainly occurs before his wife's, and she remains in an excited condition without relief. To bring on this relief she or her husband titillates her clitoris till orgasm occurs. Thus the act of masturbation is initiated. It is for this reason that married women masturbate more often than married men.

Another similar reason for masturbation in married women is impotence, partial or complete, in the husband. Here the same series of events take place, the woman does not reach her climax because of her husband's impotence, and she helps matters along by masturbation.

Concluded from July issue.

Methods Employed in Masturbation

Besides the ordinary methods of manipulation of the genitals with the hands, and thigh friction, the methods employed for the purpose of masturbation are too numerous to be mentioned. It should be remembered that the sexual sense is more developed in the female urethra than in any other portion of the external genitals, not excluding the clitoris. Hence it is that this portion of the anatomy is so frequently irritated by all sorts of implements, and that so often foreign bodies, such as hairpins, knitting-needles, etc., find their way through carelessness into the bladder. Pencils are also inserted into the urethra. Among the more common methods may be mentioned pillow masturbation, or the insertion of a key or other instrument (especially in the married) into the vagina. Artificial penes have been invented and are sold for this purpose by certain firms. Tallow candles are also very frequently used. Bananas, cucumbers, and similar fruit have been used as well.

Talmey states as follows: "The Japanese women, according to Ellis, use two hollow balls about the size of a pigeon's egg; one is empty, the other contains a small, but heavy metal ball, or some quicksilver, so that if the balls are held in hand side by side there is a continuous movement. The empty ball is first introduced into the vagina, in contact with the uterus, then the other. The slightest movement of the pelvis or thighs causes the metal or mercury-ball to roll, and the resulting vibration produces a prolonged voluptuous titillation, a gentle shock, as from a weak electric inductive apparatus. The balls are held in the vagina by a tampon. The women then delight to swing themselves in hammocks or rockingchairs, the delicate vibrations of the balls slowly producing the highest degree of sexual excitement."

Coming now to the other method of producing onanism without the use of the hands or any implements whatsoever, we have psychic onanism. In this method the orgasm is produced solely by central stimulatory representations. Lascivious trains of thought sometimes, though by no means always, the results of previous

subjective experience, are recalled. There is almost as much variety here as in the manual or instrumental method. Schrenk-Notzing records the case of a female onanist who induced orgasm simply by hearing music or while regarding paintings that displayed nothing of a lascivious character. As in the male, these are the worst forms of the malady and the strain upon the nervous system and upon the imagination is exceedingly harmful. It is just this form which is more deleterious in its results than normal coitus could be, even if coitus could be indulged in as often as masturbation.

Pathology

In those cases due to a local irritation, there is at first, as in the male, a local hyperesthesia of the parts from which impulses are sent to the sexual centers in the brain. It is obvious that as long as the local irritation is not removed the impulses are constantly being sent to the centers. If the habit has been persisted in for a long time these parts remain hypersensitive from the purely mechanical effects of the continued pulling and manipulation of the external genitals, even though the original irritation has been removed. These parts then become more sensitive than the mucous membrane of the vagina, and so, if such patients marry, the stimulation of the latter by ordinary coitus is not sufficient to excite the sexual centers sufficiently, and orgasm does not occur except with the aid of self-friction.

When we come to cases in which masturbation was first started during married life, after a period of normal coitus, due to withdrawal or impotence on the part of the husband, we have an entirely different pathology. To thoroughly understand it, it will be necessary to describe briefly the physiology of normal coitus in the female, for here, as everywhere else, pathology is but perverted physiology.

In the woman, with the commencement of coitus, there is a general hyperemia of all the pelvic organs. In a normal coitus with fully developed orgasm, and the expulsion of the secretions from the genital glands, a deplethorization occurs, and the pelvic organs are left in their natural condition.

If, however, the act is interrupted by withdrawal or by rapid or premature ejaculation on the part of the husband,

the orgasm in the female either does not occur at all or takes place incompletely and the sexual glands do not adequately empty themselves; in other words, the female does not really reach a climax, the pelvic organs remain hyperemic, and after this state of affairs has continued for a time a condition of chronic congestion of the pelvic organs takes place, with all its deleterious results.

As a general thing, even in so-called normal coitus, the man only considers himself, and not the woman at all. We find that when the man has an erection he immediately starts coitus, whether the woman has desire or not, and in many cases when she is but half-awakened. As soon as he has completed his part of the act, he stops and removes his penis. As a result, at the commencement of coitus the woman is not fully excited and only becomes half-way excited during the act, but remains excited, and has not nearly completed her part of the act when her husband ceases to perform. In questioning many women, I have been told by them that they experience little pleasure during the sexual act, but become excited afterward. As a result of this lack of deplethorization, and the resulting congestion of the genital organs (made much worse by withdrawal) and the state of sexual excitement after coitus, it is easy to understand how such women easily fall a prey to masturbation to complete the orgasm.

Symptoms

The symptoms may be divided into local and general.

1. Local Symptoms

The local symptoms are due to the local irritation set up by the manipulation of the parts. In many cases I have made the diagnosis of masturbation from an examination of the external genitals and have thus compelled a confession on the part of the patient. One of the most characteristic signs, in a case where masturbation has been practiced for a long time, is an hypertrophy of the labia minora. On account of the pulling to which these parts have been subjected, they are enormously increased in size, and Howe reports to have found them two and one-half inches in breadth and to look very much like the ears of a spaniel. They are dark-colored, often pigmented and parchment-like, while their bases may be red and swollen. There are often intense redness and spots of ex-

ecoriation near the vaginal entrance and sometimes we find a mucopurulent secretion bathing the external genitals. If the urethra has been used for purposes of masturbation we will be sure to find signs of local irritation within the meatus. As a general thing, in the unmarried, the hymen will be found intact.

It is important for medical men to appreciate the fact that as a rule masturbation has not nearly the same depressing or psychic effect on the female as it has on the male. The vast majority of young unmarried girls who masturbate never think anything of it, and attend to their regular work. The habit, as a rule, does not in any way affect their psychic behavior or interfere with their general health. The cases mentioned herein, in which certain symptoms developed, are really not the rule. The answers to a questionnaire sent out by Katharine Bement Davis to about 1000 women, most of whom were highly educated and many of whom were college graduates, showed that a very large percentage of them either masturbated at the time or had previously done so; yet, as a rule, this had not interfered with their careers, which in many cases were highly successful. I deem it also important to mention that during over thirty years in the practice of sexology, I can recall only two or three patients who were brought by their parents for the express purpose of effecting a cure of the habit. One of the most prominent and busy gynecologists in New York City informs me that his own experience has been exactly like mine, namely, that very few women or girls consult a physician about masturbation.

OF course, in taking the histories of my many gynecological cases, I have found a history of masturbation either present or previous in many instances, but this had not bothered them in the least. It is only when the subject of masturbation has been directly brought to their attention that they get ideas concerning it, and may even blame some particular ailment on the habit. Psychoanalysts, who like to blame everything on early and even on infantile experience, may do a lot of harm by bringing this question into the open.

2. General Symptoms

As a general rule it may be stated that

the earlier the habit has been started, after adolescence has been established, the worse is the effect and the more severe are the general symptoms. The cases which have begun the habit only after marriage, and have gone into the habit as a result of rapid ejaculation or other forms of impotence or withdrawal on the part of the husband, will very often result in no ill effect whatsoever, especially where the women have for several years experienced normal coitus. Indeed, so mild are the symptoms, if any, in these cases, that so great an authority as Rohleder actually advises titillation of the clitoris by the husband until orgasm is produced after coitus interruptus in those cases where both parties do not want to have any more children and by mutual consent practice withdrawal. The reason for this is easy to find. In the unmarried, the female has to draw very largely upon her imagination to produce an orgasm in psychic masturbation, while in one who has already experienced coitus, especially if titillation is practiced during coitus or after coitus interruptus, the strain on the imagination is practically nil. Those practicing purely psychic masturbation, especially if unmarried, have the worst general symptoms.

TAKING it all in all, the symptoms are similar to those we described in the adult male, though not nearly so severe. In some cases, however, they are very intense. The young unmarried female adult may be shy and retiring, not seeking or enjoying the company of the opposite sex. She is easily embarrassed, and morbid blushing is often a very prominent symptom. Her sexual character is often entirely altered. If she marries, after she has practiced masturbation for a long time previously, she gets no enjoyment out of the sexual act. Very often normal coitus is not sufficient to bring her to the orgasm, and she has to resort to titillation of the clitoris during or just before or after the act. The reflex symptoms vary greatly and are too numerous to be mentioned, but prominence must be given to vague cardiac symptoms, such as palpitation, and also in some cases a feeling by the patient of blood rushing powerfully through the carotids and a feeling of throbbing in these parts. Very often these patients seek their physician for these

cardiac symptoms, and if the latter is not on his guard he may be perplexed or even make a wrong diagnosis of functional cardiac disease.

Among the other more common general symptoms may be mentioned backache and headache. These symptoms, however, are so very frequently met with in women that we must be careful first of all to rule out other possible pathological factors. It would be very sad to let a woman go on for years with a renal calculus, a retroflexion or other organic trouble and blame the symptoms upon masturbation. Similarly, as in the male, headache is very often due to eyestrain and dizziness, or to a catarrhal or stenosed condition of the eustachian tube, causing a retraction of the tympanum. All these conditions must be thought of.

Diagnosis

Just as in other medical conditions, the diagnosis may be very easy if we have the possibility of the condition in mind, and exceedingly difficult if we never dream of such a condition. We must not be led astray by social or other conditions. Just because the female is a college girl, is refined and educated, and an ardent churchgoer, is absolutely no reason for not suspecting masturbation as a possible cause of obscure symptoms. He who considers every case of nervousness in a young girl as due to the development of the menstrual function, overwork at school or college, etc., will never make a diagnosis of masturbation. Again, one must not forget to think of it as a cause because the woman is married and has children, for, as above stated, while it is rather rare for married men to masturbate, it is not at all uncommon in married women. It often requires considerable tact to get the girl or woman to confess, but in the majority of cases we can get the history if we only think of the possibility of the habit.

An excellent method, which I have very often found to work like a charm, is to catch the patient off her guard. In married women an examination of the genitals is easy to obtain, and we can often make our diagnosis from that alone. If we are reasonably sure of our diagnosis, we say to the patient, in a matter-of-fact way, "Of course you fool with yourself occasionally." No answer to this question, or a delayed negative answer, is as good as a confession. In single girls a genital ex-

amination is not advisable as a rule, but the intelligent mother can be instructed what to look for and to watch the girl. A private talk with the young lady, with the above question, especially after a careful general examination of the heart and other organs, will also generally bring about a confession. Many people, especially the young, have a rather exaggerated idea of the knowledge and possibilities of diagnosis by a physician, and so it is not unusual for a young girl to think that a physician by listening to her heart can find out that she practices masturbation. The disciples of Freud have little difficulty in getting at the sexual history of their patients. Whenever a young girl likes to sit by herself, and does not care to mix either in play or study with her companions, and especially if she does not care for the opposite sex, or if she is a dreamer, we should suspect masturbation. On the other hand, as already stated, even if we have correctly made the diagnosis of masturbation, we should not allow ourselves to fall into the opposite error, of blaming all her symptoms upon this habit, but should also consider the possibility of errors of refraction, digestion and assimilation, or gynecologic, neurologic, orthopedic and other conditions being present simultaneously. In practically every case where a foreign body is found in the female urethra or bladder it has been introduced from without and masturbation is the direct cause.

Treatment

1. Local Treatment

All local irritations of whatsoever nature must be removed. Eczematous and intertriginous conditions about the genitals must be relieved. It makes no difference whether the local condition is the cause or the consequence of the masturbation. Even if not the cause, it serves to keep up the habit, to attract the attention of the patient to her genitals, and retards a cure. Gymnastic exercises which might bring into play thigh friction, also sliding down the banisters and similar amusements, should be interdicted. Operations on the genitals do no good unless some distinct condition, aside from the habit, presents itself.

General Treatment

Both as a preventive and as a curative measure, we must positively interdict

coffee, tea, and alcoholics.

The most important step in curing the habit is, in the first place, to remove all psychic conditions which stimulate the sexual imagination. Under this heading come erotic literature, impure plays, moving pictures, etc. In the second place, we must substitute some good habit for the bad one. Any outdoor hobby such as swimming, golfing, and tennis is good. In trying to break the habit, we must use very much tact. We must not talk in vague hints, but place the issue fairly and squarely before the patient. We must help her to help herself. We must try to develop her will-power and self-control. Nothing is so good for these patients as hard work, no matter of what kind, as it keeps them occupied. Any inclination to be by themselves should be discouraged.

LONG marriage engagements should be greatly discouraged, for they keep up in both parties a state of sexual erethism which easily leads into masturbation.

Yet one word more in regards to masturbation in adults. Never advise marriage as a cure. The marriage state is too sacred and too serious a condition to be used either as a preventive or as a cure for masturbation. Such vague hints as "Nothing will cure your nervousness like marriage" are both unscientific and undignified from the conscientious physician. Besides, such hints may not be without danger to the weakling. I have heard of at least one woman who took to illegal coitus because her physician said that marriage was necessary to her health.

In married women who have taken up the habit as a consequence of unsatisfied desire due to the husband's impotence, withdrawal or any of the other conditions above mentioned, the cure of the husband and his proper instruction in sexual matters is essential. It may seem ridiculous, to some physicians, to be told that normal men ought to be instructed in the proper method of having coitus, yet to the sexologist nothing is more common than the dense ignorance on this very matter found among so-called "normal men."

The husband is to be made aware of the fact that the wife has a well-marked sexual sense and desire, and her desire and passion should be taken into consideration in his marital duties. He should be informed that sexual intercourse is just as important to her as to him, and the

lack of it is just as injurious to her as to him. He should be informed that it is just as necessary for his wife to have complete orgasm as it is for him; and that simply to excite his wife either by withdrawal or removal of his penis too soon, leaving her moaning with an excited but uncompleted passion, is sure to lead to trouble.

The husband should be taught that before commencing coitus, his wife should be fully awakened and, by all the arts of love and affection, be stimulated into passion, so that during the act she should, if possible, be as passionate as he is. If he should be first to have an orgasm, he should not merely consider himself and his own comfort, but leave his organ in her vagina until she has had her orgasm. He should be the true lover and not merely the beast. If suffering from impotence, or rapid ejaculation, these should receive the proper treatment. He should be taught that coitus interruptus is not normal coitus, and is sure to react injuriously on both parties. If all men were properly instructed, there would be less complaint of frigidity of the wife on the part of the husband, and also less complaint on the part of the wife that sexual intercourse only results in pregnancies for her.

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88 CENTRAL PARK WEST

OXYGEN, LIFE'S CATALYST

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RUDIMENTARY branchial clefts, located on either side of the human neck, bear evidence of man's ancestry in gill-breathing species.

Some tropical fishes are direct air-breathers. These may be likened to early oxygen experimenters in man's progress from water to land habitation.

The degree to which we may regard water warmth as having had an effect in altering the breathing method for cold blooded fishes is speculative.

However, the fact that an increased warmth in surroundings requires additional combustion of oxygen for cooling the surface and interior of the body requires thought.

Man's ascendancy to his existing form followed upon his early adjustment to an atmospheric oxygen. Man breathes oxygen in its free state, his food is derived from oxygen-consuming plants and animals, and his escape from destruction by cold is by means of the flare of oxygen and carbon.

The ratio of oxygen in the atmosphere, its pressure effects upon the earth and its influence upon all organic and inorganic substance that in any way pertains to life evinces its needfulness. Man's functioning and its persistence after his embryonal attainment of the vital spark is subject to the chemical dominance of this gas.

THIS is an oxygen-controlled world; vital man is but one of its expressions in being directed in a certain way and in conformity with an imperious demand expressed by this invisible agent.

Oxygen may well be termed "The queen of elements," and her consort, hydrogen, "The King."

Oxygen appears as both fluid and gas. It assumes a liquid state under sufficient pressure and flows like a solute throughout the fluids of the body. In its atomic form it may be accepted as being in a colloidal form, for such is its nature, as well as being crystalloidal in its expression.

But little physical change was required for the conversion of the gill-breather into a direct lung absorber of air. And of

any or all the content of the atmosphere, oxygen alone is shown needful and answering for respiration, thus complying with the requirement of life.

Of all known substances, protoplasm alone manifests life. And of the many varieties of protoplasm which exist, that one alone which is termed "undifferentiated" provides suitable residence for living expression in the animal species. This type is also distinguished as being the embryonic form of protoplasm.

Such is the earliest adaptable form that allowed conception of animal substance capable of reproduction, of functioning and self-preservation in living form. It was nature's successful venture in choice for a response to existing requirements, under oxygen control.

"Undifferentiated" protoplasm is referred to by the word "aplasia." Anaplerosis is a term signifying a building of structure or as producing a more complex form.

A process in living structure resembling anaplerosis is called metabolism, the activity therein expressed being due to the influence of oxygen.

TWO processes are engaged in metabolism in which anabolism is the positive element as builder and catabolism the negative potential with inverting influence.

The protoplasm within the cell is called cytoplasm or hyaloplasm. This contains minute granular forms of extreme importance. The cytoplasm is held within a net or meshwork termed spongioplasm which may be assumed to represent the primitive form of cell membrane, semi-permeable in nature.

Protoplasm is a colloid, never appearing as a crystalloid. This may seem misleading because the minuteness in colloidal dimension permits its appearance as though being in fluid form.

Semi-permeable membranes diffuse certain solutes or ions and withhold others.

Splitting colloids to finer divisions increases surface areas, tension and inter-colloidal pressures.

The expression of energy is a constant factor; it neither gains nor loses. When such modification seems to occur, it merely signifies that a transformation appears in its exhibition.

The contractile element within colloid particles is a communicated pressure. It conforms to atmospheric conditions as is demonstrated in the example of caisson disease. Here, excessive air pressure requires slow reducing measures else nitrogen bubbles are expressed from lung alveoli into tissues with the production of so-called "diver's disease."

METABOLISM is the result of some power communicated to the body and thus expressed. This is true because it cannot be self-engendering. The nitrogen that is present in the respired air is inert as is its associate, argon. These gases are not ordinarily absorbed by the pulmonary alveoli. Herein is proof of the sole and superior advantage of oxygen as provided for metabolic requirements.

The contributed power of energy must be constant and so occur as a living expression through means of a catalyst. There is an exchange of an oxygen load through inspiration, a compensatory balancing in expiration as an exchange with no energy wasted. Like a swinging pendulum to which is communicated some propelling force, the respiratory tide advances and retires.

Oxygen is a vehicle for transporting a load of energy. One may view each molecule of free oxygen as laden with a unit of energy. It delivers its burden and, in conserving energy, bears a compensating load to the general atmospheric realm and again becomes a free agent for further toil.

But, as is manifest in all this, oxygen has an intermediate role. It is the ammunition which, as it were, explodes and delivers an effect in power load. With the animal this is the element representing life. Living energy is a manifestation of which we know little other than speculation giving a premise which science cannot destroy.

A catalyst changes the velocity of a reaction produced by its presence but does not itself enter into the reaction.

Or, it may be said that through the presence of a catalyst, a chemical reaction ensues. Thereby a functioning power is lost by a living substance which is converted into an inert mass.

In the first instance a catalyst forces a chemical change as the effect of anabolism. With the chemical change ensuing, the substance is rendered useless, the result of catabolism. In the latter apparently

wasted substance, however, molecules persist as chemical elements and respond to other catalysts, as in the instance of "undifferentiated" protoplasm, to again be utilized. This is referred to as "entropy"; energy has not been lost but an exchange has been produced; available atoms and molecules persist.

Domestic illustration is provided in the example of yeast used for making bread. Yeast as a chemical starter is only a catalyst; it is not the bread substance. Again as a vitamin, it is a catalyst for physiological purposes, conferring the benefit of oxygen upon hyaline bodies in the cytoplasm of living cells.

The same catalyst may exert effects in both anabolism and catabolism. It is the energizing factor of life rather than oxygen itself which "starts" the vital process and maintains an activity within cytoplasm.

LIVING processes occur within and are confined to cell cytoplasmic contents. A constant diffusion is carried on through intercellular protoplasm. The manifestation may be compared with the action in a storage battery within which plates, already "charged," in operation deliver "potentials" upon, through and between separating plates within the battery. Such plates may be viewed as representing semi-permeable membranes, porous to certain ions of electrochemical effect.

Where no plates are used in storage batteries, the effect of opposing potentials is provided by the theoretical double layer of Gibbs or the "doublet" of Donnan's discovery.

By such devices, electrochemical potentials are rendered effective through positive and negative polarities and ions move toward the positive element as though diffused.

Through the semi-permeable membrane forming the cell wall and internal meshwork, oxygen released from its catalyst status becomes available for metabolic effect upon the granular or other intercellular substance.

Iron is the catalyst concerned with the transport of oxygen and iodine is the catalyst for its maintenance in continued metabolic effect.

However, reversible catalytic effects are produced as organic acids. An instance is carbon dioxide as a stimulant for respiration.

It is more than a coincidence that iodine,

so definitely a sea element, is of marked need as a catalyst by man. Without its presence in human structure, a detrimental imbalance in water metabolism ensues. It proves to be far more than a persisting relic of the respiratory method of the finny species.

One result of iodine deprivation is evidence of reversed metabolism. There is an inversion as reduction toward the state of undifferentiated protoplasm. This is shown in the altered ratio of colloid which occurs in excess with osmotic disturbances of the fluid balance of animal structure. Nephrosis may appear and, though oxygen supply is efficient, a catalytic benefit is wanting.

In such cases defect occurs in the metabolism of amino-acids as keratin with skin, hair and cartilage effects. Far-reaching influences may be shown as in epiphyseal failure and defects which occur in skeletal structure. In measurable instances this is corrected by iodine supply. However, in turn, a superimposed reason exists for thyroidal disturbance to appear. Again a significant condition arises from a catalytic disturbance wherein oxygen is involved.

A POINT occurs in the evidence of a produced reversal of the metabolic purpose whereby rather than anabolism being sufficiently effective for producing more complex protoplasm, either a latency occurs or degenerative effects are shown.

In the former instance colloidal storage would be evidenced as in colloidal pockets or deposits; in the latter, conditions are noted which are of the amyloid degenerative type, as amyloidosis or lardacein deposits. Of perhaps far less effect are conditions which through faulty oxidation induce conditions bearing such terms as gout or uremia.

Muscle metabolism ordinarily occurs in normal degree but may be demanded in excess with limited supply or intake of required protoplasm. In muscle restoration as a local requirement, protoplasmic fibrils may require replenishing. If muscle protoplasm, in demand for generalized needs, is depleted, it is at a heavy cost, for physical exhaustion occurs commensurate with the protoplasmic depletion.

METABOLISM is the sum total of the physical efforts of an organism devoted to organizing a functioning structure. With this there is required an

ability to render protoplasm or other substance most suitable for expressing vital energy. It is a biochemical or electrochemical process whereby energy is translated into animal power and usable as such.

There is no functional expression of the animal but what demands metabolic features. Elements of any nature which enter the animal body are disposed of in some way to best advantage by metabolism, wherein oxygen has its fullest effect.

METABOLIC processes are constructive as creating nutritional material and yet destructive by converting non-usable substances into waste material. Under the latter heading falls the rendering of toxic material harmless, largely the province of liver cells.

The effect of oxygen is observable throughout nature and an application of like effects is reflected in the animal organism.

Instances of oxygen effect occur in the rapid process of gas explosion, or magnesium flares. At a far extreme slow oxidization is shown in the rotting tree trunk. Metabolism is fashioned after both of these extremes.

An urgent metabolic effect wherein oxygen is strongly displayed is seen in such a series of changes as occur in the conversion of carbohydrates to glucose. Slower oxidizing processes are metabolizing fats, and protoplasm, perhaps, enters between the two.

Unlike glycogen, protoplasm is not stored in the liver. It is metabolized when normally supplied, depending largely upon the expenditure of energy.

IT is questionable as to which is the more important, carbohydrates or protoplasm. For animal need the glycogen represents energy and the protoplasm connotes structure. However, with fat the two elements provide interchangeable values, a certain amount of conversion of any one such principle into either of the others being a biochemical provision.

The principle of metabolism as applied throughout the animal system is largely expressed by what appears to be a quite simple process. It is that of separating oxygen and hydrogen.

This, however, is not in the manner of dividing the molecule of water into H_2 and O but is that of H as positive or

acidic in nature, called hydrion, and OH as negative or alkaline and called oxyhydrion.

In the chemistry of glucose undergoing metabolism, water molecules are added, while in the metabolism of protoplasm, water molecules are withdrawn.

In the first instance the product represents enlarged or expanded solutes and in the latter a contracted molecule as urea.

Methods of protoplasmic change, whereby structural differences ensue in vast number, comprise such vast and varied processes that available space allows only a broaching of the topic.

The series of changes and the products that ensue are carried on by means of catalysts as enzymes, hormones and equivalent organic products.

By such means there is provided an energizer of a type that stimulates biochemical activity as metabolism. Were it otherwise a state of physical arrest would ensue.

In instances such as synthesis and hydrolysis, water may serve as a catalyst. Reducing or condensing protoplasm by subdivision eliminates water. During digestion the water is restored by hydrolysis.

Summary

WHILE oxygen is the essential element for preserving life, it is not demonstrable as being the means by which vital expression is located within the embryo.

Oxygen exists in a free state in our atmosphere after the manner of a gaseous colloid which is utilizable by the animal species as though it were a solute. The

accompanying atmospheric gases are inert.

Onset of conditions of pathology or functional stress demands oxygen supply. In the process of relief there is provided an energizer for stimulating metabolism else latency or inertia ensues.

Oxygen cannot remain in living cells except through an association with some catalyst which is utilized for absorption of the element and maintenance of the oxidizing function.

Preceding the capacity of oxygen for communicating a living force is the existence of some power that is available in the atmosphere. For its expression through oxygen, oxygen must be free and the energizing factor available at all times.

Only in sun-lit atmosphere do proper conditions exist for full capacity for animal life. In the background of oxygen itself is this catalytic property which conveys an intangible substance which we regard as a vitalizing element.

In the forefront and expanding to comprise the full perspective are designations as electrons, ions and scientific premises which fail to further elucidate the mystery of the universe.

Within the confines of "relativity" we as yet find our reasoning only leads us back to our starting place.

But within the understanding of mankind is the reasonableness of accepting oxygen as life's catalyst. Therein it is expressed in functioning processes in the animal cell and by the perpetuation of reproducing processes of an embryonic nature which endure through the years of man's physical fortunes and adversities. 1508 GRANDVIEW AVENUE.



Floating Hospitals

FLOATING hospitals are now going to sea as part of our regular convoy escorts, it was disclosed during the Navy trial run of the PCE (R) 853 (patrol craft escort, rescue) in Lake Michigan.

Containing bunks for 57 passengers and having complete hospital facilities, including a doctor, operating table, dispensary

and x-ray machines, these vessels are being built in Chicago by the Pullman-Standard Car Manufacturing Company. They will save many men the ordeal of long hours at sea without adequate medical attention.

Like other PCE craft, which do not have the hospital facilities, these rescue ships are manned by seven officers and 100 men.

STAPHYLOCOCCAL PNEUMONIA FOLLOWING UPPER RESPIRATORY TRACT INFECTION

Willard J. Davies, M.D., F.A.C.P.

Rockville Centre, New York

IN FEBRUARY, 1942, a new and unusual form of upper and lower respiratory tract infection began to be seen.

Some of these infections were ushered in with involvement of the nasal tract and then a few days after apparent recovery were followed by a severe infection of the larynx and trachea. The symptoms at that time were a severe laryngitis, substernal soreness and severe uncontrollable spasms of coughing more often at night than in the daytime. Others seemed to follow a fair degree of temperature rise, headache, backache and general malaise. The sputum was generally frothy at first and then became golden yellow.

The above symptoms held true in cases which were both x-ray positive and negative for pulmonary infiltration.

The appearance of the pharynx remains very typical and is a capillary injection rather than an erythema of the tissue.

THE usual physical examination of the chest showed very little for the first four or five days although at times very fine moist râles could be detected which might or might not disappear with cough. Later, the findings were not characteristic of pneumococcal types.

The x-ray findings in these cases showed an interstitial inflammatory process and when in the upper lobes resembled tuberculosis very closely. So much so, in fact, that serial plates must be taken to follow the course and reach a diagnosis.

The few organisms that cause interstitial inflammation are the staphylococcus, Friedländer's organism, fusospirochetal disease and a few strains of streptococcus. In about 50 per cent of the cases this interstitial character of the organism is revealed by the coarse, grunty, expiratory wheezes heard over the infected area.

The organism can be recovered in a culture of the sputum. I believe more care should be used and more persistent efforts made to identify the causative organism.

Read at the Scientific Session of the Associated Physicians of Long Island, held at East Williston, N. Y., June 20, 1944.

From the Medical Service of Meadowbrook Hospital, Hempstead, N. Y.

MEDICAL TIMES, AUGUST, 1944

The sputum should be examined for the pneumococcus and if that organism is not seen then the most prevalent organism should be reported and a culture of the sputum done. With the advent of the sulfa drugs, the thorough examination of the sputum has almost disappeared and it is very rare indeed to find that a culture has been done.

Two cases will be presented which show the typical x-ray findings. Both cases had staphylococcus positive blood streams and one on bronchoscopic aspiration gave the same organism. These cases, I believe, find a place in the recent classification of "primary atypical pneumonia," "primary atypical pneumonia of unknown etiology," and "virus pneumonia," etc.

Case I.

M. B., 18, white, was admitted on the obstetrical service March 24, 1942, at 2 P.M. She was transferred to the medical service March 31st and expired April 3, 1942. She was delivered on the day of entrance and was given a nitrous oxide-oxygen anesthetic. The history stated that she had had a cough with thick productive sputum, with aching of the back, arms and legs 2 or 3 weeks before admission.

Physical examination showed an injected pharynx, right basal râles and pregnancy. There were no other pertinent findings. She was delivered at 7:40 P.M. At 10:30 that evening, the patient began to cough and became very cyanotic. The temperature was 102.4 F., pulse 158 and respirations 40. She was x-rayed at midnight. Sulfadiazine was started and the next day there was a gradual drop in temperature, pulse and respirations. The temperature was normal at 8 P.M. the next day but did not remain there long and soon rose to 101.8 F., and the pulse varied widely from 130-168. The sputum and mouse were negative for pneumococcus on the second hospital day. The sputum culture and the culture of the bronchoscopic specimen was *Staphylococcus aureus*. The sulfa drug was changed to sulfathiazole on the above information. The blood levels were 9.6 (29th), 4.5 (30th), 6.3 (31st), 2.5 (1st) and 5.03 on the 2nd of April. The blood culture which was taken on the 29th (the 5th hospital

day) was positive for *Staphylococcus aureus* in the broth and again two days later showed 23 colonies on the plates.

On April 1st, 50,000 units of staphylococcus antitoxin were given followed by 300 cc. of citrated blood. The next day, 50,000 units were given again followed by 250 cc. of citrated blood. This was the first day the patient began to show some interest in her environment and asked about her condition. Cultures of blood taken on the 2nd of April showed no growth and the temperature fell to 100 F. The next day, the 10th hospital day, she suddenly became noisy and semicomatose and died at 1:30 P.M.

AUTOPSY report on the lungs showed the pleura smooth, glistening and pinkish gray to reddish brown in color. The right lung is consolidated, particularly the lower and middle lobes. Crepitus is absent. On opening the bronchi, it contains thick, purulent exudate which is yellowish green in color. The exudate extends through the bronchial tree. The mucosa is congested and pinkish red in color. On section of the lung, localized areas of varying size are seen scattered throughout. These areas project above the surrounding surface and are grayish red in color and have a granular appearance. The central portions are soft and show evidence of necrosis. On pressure similar purulent exudate escapes from the bronchial tree. These areas vary in size from 2 mm. to 1½ cm. The greater number are in the middle and lower right lobes. The surrounding parenchyma is firm and on pressure a thick purulent exudate escapes. The upper left lobe is of firm consistency as is the lower lobe in the apical portion. On section the lung presents the same findings as on the right. There are fewer scattered areas in the lower lobe.

The postmortem lung smear cultured *Staphylococcus aureus*.

The other organs were grossly normal except the uterus and adnexa where findings were those of a recently delivered female.

Case II.

W. R., a 46-year-old white male, was admitted April 6, 1942, with a perforated peptic ulcer and expired April 20, 1942.

He gave a history of having had abdominal pain for 14 hours previous to admission. The throat was injected. The abdomen was board-like. (He gave an

interesting past history of previous hospitalization January 3, 1939, for hernia when he developed pneumonia post-operatively which was a pneumococcus type xxviii.)

He was operated upon the same day and the peritoneal cavity was filled with yellow fluid. A small perforated ulcer was visible on the prepyloric area which was closed and a drain inserted. On the following day, dullness was noted at the right lower lobe posteriorly with râles in the same area and also in the lower left. A blood transfusion of 500 cc. of citrated blood was given on the 8th and another on the 18th. Sulfadiazine was started on the 7th, the day following operation, when the temperature rose to 104 F. The next day it fell to 102 and remained at that level until the 7th hospital day, when it began to fluctuate between 102 and 104 F. until expiration on the 14th day. The total white count varied from 2,500 on admission to 6,900 to the tenth day, then rose to 18,500 the following day and remained within this range.

THE culture of the peritoneal fluid showed *Staphylococcus albus* and *Staphylococcus aureus*. The sputum smear did not show the pneumococcus. The blood culture taken on the second day showed the plate covered with *Staphylococcus albus*. The sputum culture taken on next day (3rd hospital day) showed *Staphylococcus aureus*. The blood culture taken on the 8th hospital day did not show any growth.

Consultation with the medical service on the second hospital day was as follows: The examination was limited to the anterior portion of the chest because of the condition of the patient and the drainage tube. There was some impairment on the right in the posterior axillary line. No râles were heard on either side. The plate shows an infiltration from the hilus down and out to the periphery—patchy in type. There is some injection at the left base. The process is probably pneumonia with the organism indefinite. Tuberculosis must be ruled out. Predominating organism in the sputum might be a staphylococcus. Suggest changing to sulfathiazole.

The postmortem report stated that on opening the peritoneal cavity a large amount of foul gas escapes. There is no evidence of perforation at this time. All the organs are covered with a thick green-

ish fibropurulent material.

The thorax showed the lungs lying free in their respective cavities. The pleural surface on the right is smooth and glistening. It varies in color from reddish pink to brown. On palpation, there are widely distributed, small, discrete areas of firm consistency and on section multiple abscesses are seen containing large quantities of thick, yellow-green, purulent material. The surrounding parenchyma is

markedly edematous and congested. There is no evidence of consolidation. The left lung likewise presents scattered abscess areas containing the same purulent exudate. They vary in size from 3 mm. to 1 cm. Microscopic examination of the lung tissue showed acute congestion, multiple abscesses with regional fibrosis, pulmonary fibrosis, lobular pneumonia and pulmonary edema.

290 HEMPSTEAD AVENUE.

TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR IN THE VERY AGED

Otho C. Hudson, M.D., F.A.C.S.

Hempstead, N. Y.

TREATMENT of fracture of the neck of the femur is still not a completely solved problem. With mechanical internal fixation the percentage of union has risen above that of traction or plaster immobilization.

Unfortunately, the osseous repair is greater in the younger group below eighty years. When fractures occur in the older age group, above eighty, the number that get bony union decreases.

Some of these patients have been confined to the house except for short periods of activity, confined to chair and bed, or bed alone. This is due to the steady decline in general physical condition because of the diseases of old age. In some the osseous system has also undergone degenerative changes with loss of lime salts and vascularity of the bone.

The physical changes in the bone make for poor osseous union. At times the musculature is so devitalized that healing of the soft tissue is also impeded.

The fracture is painful and the non-union is painful.

Dr. Herman de Las Casas of Venezuela in 1941 suggested and performed excision of the head of the femur for fractured neck of femur, in a selected group of aged

patients. He selected those patients who were in poor general condition, and incapacitated before injury, for this treatment.

The advantage of this treatment is that by relief of pain these patients can lie in bed in comfort, get up in chair in comfort, and do some walking in comfort. The severe pain is relieved immediately, and the operative pain soon subsides. This makes nursing care easier.

The patient has one and one-half inch to two inches shortening that necessitates an elevation on the shoe. The extremity is unstable so that gait is possible only by swinging the body weight over the extremity, as in congenital hip gait. Some support such as a cane is needed.

IN a carefully selected group of very aged individuals this procedure can be done so that there is no fear of non-union, and pain is relieved.

Excision of the head can be done under HMC #1 analgesia. A plaster boot should be used with a board attached to prevent external rotation of the extremity, for ten to fourteen days. Active muscle exercise of all joints in the extremity is started the day after operation.

We have used this procedure in very selected cases for two years, with success.

A possible solution of the treatment of fracture of the neck of the femur, in some of the very aged, is suggested.

PROFESSIONAL BUILDING.

Read at the Scientific Session of the Associated Physicians of Long Island, held at East Williston, N. Y., June 20th, 1944.

MEDICAL TIMES, AUGUST, 1944

THE INFLUENCE OF ANTEPARTUM CARE ON THE PREVENTION OF TOXEMIA OF PREGNANCY

George Borden Granger,
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CLINICALLY, the obstetrician depends on recorded weights, urine examinations and blood pressure determinations for the recognition of signs of beginning toxemias. A gain in weight of over one and a half pounds per week in the last trimester has been interpreted by some to mean that excess water is being retained. Although there are many factors that favor the gradual accumulation of weight during pregnancy, a sudden increase in rate of gain is more often due to the retention of excess water. This water may be occult at first or appear later on as pitting edema. Sodium in the form of table salt or sodium bicarbonate favors the retention of excess water and sodium restriction favors the elimination of the excess. It is well known also that abnormal rates of weight gain may precede the albuminuria and elevation of the blood pressure. Each such patient, then, should be regarded as a case of potential toxemia as far as rate of gain is concerned. If an attempt is made to prevent an increase of excess water retention, then a low incidence of severe toxemia should result.

Accordingly, to see whether this impression was borne out by the facts, the antepartum records of 300 patients were reviewed as a sample. These cases were divided into two groups: Group 1, those whose antepartum records showed a gain of over one and a half pounds in any one

week during the last three lunar months. Group 2, those gaining one and a half pounds or less. The incidence of toxemia in these groups is shown in Chart 1.

The toxemia incidence in Group 1 was 2½ times the incidence in Group 2.

Three of the four toxic cases that gained one and a half pounds maximum or less per week were in the Vascular-Renal or Essential Hypertension Group, and two of these were severe instances of Vascular-Renal disease. Chart 2 shows the relation of average total weight gained and the average maximum weight gain per week in the toxic and non-toxic cases.

CHART No. 2 shows that the average total weight gain revealed no appreciable difference in the non-toxic and the toxic group, but an expected average increase in the rate of gain in the toxic over the non-toxic. The twenty-five toxic cases were classified as shown in Chart No. 3. Opinions would no doubt differ in the diagnosis between mild vascular-renal disease or essential hypertension group and the mild pre-eclampsia group. The cases that had terminal elevations of blood pressure were classified in the mild pre-eclampsia group provided their earlier blood pressure readings were normal. The mild Vascular-Renal group or Essential Hypertension group showed either a lability of blood pressure or a tendency to elevation early in their antepartum care. The severe Vascular-Renal cases may have had some superimposed pre-eclampsia as pregnancy was terminated in all three cases.

Eighty-four per cent of the toxic cases gained more than one and a half pounds maximum per any one week in last three lunar months.

Read at the Scientific Session of the Associated Physicians of Long Island, held at East Williston, N. Y., June 20th, 1944.

Chart 1.

Group 1.	No. of Cases	No. Toxic Cases	% of Group becoming Toxic	% of Total becoming Toxic
Cases gaining over 1½ lbs. max./wk	201	21	10.4%	7. %
Group 2.—Cases gaining 1½ lbs. max./week or less	99	4	4. %	1.3%
Total:	300	25		8.3%

Chart 2.

	Average	Total Weight Gain	Average Max. Wgt. gain/week
Non-Toxic Cases	275	24.12	1.85
Toxic Cases	25	25.2	2.65

Conclusion

1. Attention to excessive rates of gain in the last three months of pregnancy resulted in a low incidence of severe toxemia in a sample of 300 private patient cases, but had no appreciable effect on the total incidence of mild toxemia.

2. Using an arbitrary index of a maximum weight gain in any one week of the last three lunar months of over one and a half pounds as an index of excessive water retention, sixty-seven per cent of the three hundred cases were so classified and 10.4% of this group became toxic.

Chart 3.

	Cases	Percent of Toxic Cases	Percent of Total Cases
Mild Pre-Eclampsia	12	48	4
Mild Vascular-Renal or Essential Hypertension	9	36	3
Severe Pre-Eclampsia	1	4	.33
Severe Vascular-Renal	3	12	1
Eclampsia	0	0	0
Total:	25	100	8.33%



The Medical Sciences at Brown University

THE establishment of a Department of Medical Sciences at Brown University has been announced by President Henry M. Wriston. This department will perform a number of important functions within the University and in the relationships of the University to the medical profession and hospitals of the community.

Charles A. McDonald, M.D., and Alex M. Burgess, M. D., physicians connected with the Division of University Health for some time, have been appointed Professors of Health and Hygiene in this new department.

Through this department the University will assume a larger responsibility for the general education of its students in matters of health as a requisite of effective accomplishment in college and in after-college years. It will approach this responsibility in the light of the needs which have been revealed by the war experiences. Special attention will also be given to the orientation of students who are planning professional study in the art and science of medicine.

The Department of Medical Sciences

will also offer facilities for advanced study and research. This is designed in part to meet the needs and desires of recent graduates of medical schools whose post-graduate studies in certain specialized fields of medical science have been interrupted by war service.

Opportunities for specialized study will also be available to other interested members of the medical profession. Brown University is also prepared to co-operate in the development of programs of post-graduate study and research for members of the resident staffs of the hospitals of the community.

Fellowships in Health Education

TO provide men and women professionally trained in public health work who will aid the nation's army of polio fighters, The National Foundation for Infantile Paralysis has set aside the sum of \$50,000 for fellowships in health education.

Under this program, which has been developed in cooperation with the U. S. Public Health Service, qualified men of certain Selective Service classifications, as well as qualified women, will go into training starting this fall.

LOOKING BACK

William T. Daily, M.D.

Historian of the Alumni Association
Long Island College of Medicine
1944

IN 1850, while the physicians in this locality were looking forward to the day when a dispensary would be established, there occurred in this neighborhood, on this very street, an event that was of more than passing importance.

In Rochester, New York, there lived a family named Jerome, who were interested in public affairs. One son, Larry, was appointed Port Collector of Rochester, and another, Leonard, a lawyer, was appointed Consul to Trieste, on the Adriatic. These two political designations were made by the thirteenth President of the United States, Millard Fillmore, a whig. A third brother, Addison, 37, and his wife, Julia, 31, lived at 292 Henry Street, Brooklyn. This address today is the southwest corner of Henry and State Streets, the property of Rick's grocery store. However, a map of 1850 shows that 292 Henry Street was located where 426 Henry Street is today. This address, near Kane Street, is a private dwelling owned and occupied by Joseph Romeo. This address in 1850 was probably Addison Jerome's home, where Leonard, 34, and his wife, Clara, 25 years, stayed while awaiting not only a ship to take them to their new duties at Trieste, but also the arrival of an unborn child. This awaited child has made world history.

Having served four years at Trieste, Leonard became bored, and returned with his wife and children. Soon after his arrival, he pyramided to financial and social success. He controlled railroads, and Boards of Directors. He owned the *New York Times*; he built race tracks and raced his own fastest horses. He wanted money largely for leadership. In Madison Square he built his stables with which only the Emperor's mews of Paris could compare. A red brick building, faced with marble, housed his thoroughbreds and carriages of the best make. On the second floor he had the architect plan an enormous dance hall where the wealth and

social élite gathered to step sprightly to talented musicians. At each end of this dance hall was a fountain. Eau de Cologne gushed forth from one, and champagne from the other.

THE awaited baby girl born at 292 Henry Street and called Jennie was now in her early teens. Her father thought it time for her to make her debut, and Delmonico's, then at 5th Avenue and Fourteenth Street, was selected. Signor Delmonico showed considerable self-control when Mr. Jerome told him that for Jennie's debut party he wished to spend ten thousand dollars. "We never expected anything from you, Signor Jerome, but greatness," replied the hotel owner. The large ball room was decorated lavishly. An oval table for seventy-two guests had every inch covered with flowers, except an artificial lake in the center, thirty feet long and nearly as wide, having flower-covered wire which gave ample exercising space for the swans transported from Prospect Park.

Dr. J. Marion Sims, born ten miles south of Lancaster, South Carolina, in 1813, graduating from Jefferson Medical School, had tried general practice in several places, and failing, had volunteered in the Seminole War. He later located in Montgomery, Alabama, and finally in New York, hoping to recover his health. In this City he met opposition in making gynecology a specialty. He persisted, however, and the Woman's Hospital which he organized and served for fifteen years is a testimonial to his courage. Dr. Sims had strong Southern sympathies, and finding it uncomfortable to live in New York, closed his office, and at the age of forty-eight, sailed July 18, 1862 for Europe, opening an office in Paris. His operation on vesico-vaginal fistula in Paris gave him a place among the surgeons of Europe almost unparalleled. He was a special guest of the French Emperor at St. Cloud, while operating upon the nobility.

Clara Jerome, Jennie's mother, having been a patient of Dr. Sims, and wishing to remain under his professional care, went to Paris to be near him taking her two daughters with her. Possessed of wealth and social standing in New York, they

were able to move in the best society in Paris.

Strife between Germany and France was increasing and, in 1870, the Franco-Prussian war was declared, as three hundred thousand Prussian soldiers closed in on Paris. Like today, the Palace at Versailles was in Germany's control. Bismarck ruled from there. The American government warned all nationals to leave France, but the ladies Jerome hesitated. Finally they arrived at Cowes, on the Isle of Wight, in the summer of 1871. At this time, the officers of the cruiser *Ariadne* gave a ball at the Royal Yacht Squadron Castle where Jennie Jerome was presented to Lord Randolph Churchill. On April 15, 1874, their wedding took place at the British Embassy in Paris.

In 1874, the London *Times*, among the birth notices, printed "On the 30th of November at Blenheim Palace, the Lady Randolph Churchill, prematurely, of a son." While he was only a seven months' premature, it is a blessing that he reached man's estate.

Civilization is the debtor to Jennie Jerome, of 292 Henry Street, for presenting to this world her distinguished son, the present Prime Minister of Great Britain, Winston Churchill.

ABOUT 1850 the physicians in general practice, in the sixth and tenth wards in the City of Brooklyn, decided to open a dispensary for the sick poor. Because the sixth ward was inhabited largely by Germans it was decided to locate it at 145 Court Street, between Atlantic Avenue and Pacific Street.

A painted sign, extending across the front of this private dwelling, announced to passers-by that it was "The Brooklyn German General Dispensary." Not only were ambulatory cases treated, but beds were provided and used by medical and surgical cases. It was more than the sign stated. It was a hospital. This humble beginning in March, 1856, eventually became the Long Island College Hospital.

The physicians who organized this dispensary were Gustave Braeunlich of 285 Henry Street, Louis Bauer, 167 Court Street, William Arming, 75 Court Street, Edward Maebert, 109 Union Street, Herman Zundt, 42 Dean Street, and August Kalb or Kalt. It was the intention of these founders to build, eventually, a large German Hospital to care for the German

population. This plan, however, did not materialize. It is possible that the neighborhood was changing. Reading the Dispensary admission book, called the *Diarium*, of November, 1857, confirms this. One reads such names as Patrick Ryan, Mary Ryan, William Crogan, Peter Morlow, William Buchanan, John Lowry, Ed. Mahaney, Dennis Coles, Catherine O'Reilly, Mrs. Graham, Mrs. Fitzsimmons, Ann Cassidy, Bernard McCue and William Casey.

Three new physicians enter the scene. Daniel Ayres, 156 Montague Street, John Byrne, 202 Clinton Street, and William H. Dudley, 291 Henry Street. The first named was a native of Jamaica, Long Island, and the latter two were natives of the Emerald Isle. No three men could have done more for the sick poor. The Brooklyn City Hospital, called today the Brooklyn Hospital, was also organized largely by their efforts.

In the Dispensary record, the *Diarium*, on November 7, 1857, there appears an "Explanation." In this description, the German General Dispensary has changed its name. Careful scrutiny shows that the words "St. John's" have been erased, and the words "Long Island" substituted. The word "college" was apparently an after thought, and was inserted as an addition, and appears on a higher line.

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THE INFLUENCE OF ANTEPARTUM CARE ON THE PREVENTION OF TOXEMIA OF PREGNANCY

George Borden Granger,
M.D., F.A.C.S.

Rockville Centre, N. Y.

CLINICALLY, the obstetrician depends on recorded weights, urine examinations and blood pressure determinations for the recognition of signs of beginning toxemias. A gain in weight of over one and a half pounds per week in the last trimester has been interpreted by some to mean that excess water is being retained. Although there are many factors that favor the gradual accumulation of weight during pregnancy, a sudden increase in rate of gain is more often due to the retention of excess water. This water may be occult at first or appear later on as pitting edema. Sodium in the form of table salt or sodium bicarbonate favors the retention of excess water and sodium restriction favors the elimination of the excess. It is well known also that abnormal rates of weight gain may precede the albuminuria and elevation of the blood pressure. Each such patient, then, should be regarded as a case of potential toxemia as far as rate of gain is concerned. If an attempt is made to prevent an increase of excess water retention, then a low incidence of severe toxemia should result.

Accordingly, to see whether this impression was borne out by the facts, the antepartum records of 300 patients were reviewed as a sample. These cases were divided into two groups: Group 1. those whose antepartum records showed a gain of over one and a half pounds in any one

week during the last three lunar months. Group 2. those gaining one and a half pounds or less. The incidence of toxemia in these groups is shown in Chart 1.

The toxemia incidence in Group 1 was 2½ times the incidence in Group 2.

Three of the four toxic cases that gained one and a half pounds maximum or less per week were in the Vascular-Renal or Essential Hypertension Group, and two of these were severe instances of Vascular-Renal disease. Chart 2 shows the relation of average total weight gained and the average maximum weight gain per week in the toxic and non-toxic cases.

CHART No. 2 shows that the average total weight gain revealed no appreciable difference in the non-toxic and the toxic group, but an expected average increase in the rate of gain in the toxic over the non-toxic. The twenty-five toxic cases were classified as shown in Chart No. 3. Opinions would no doubt differ in the diagnosis between mild vascular-renal disease or essential hypertension group and the mild pre-eclampsia group. The cases that had terminal elevations of blood pressure were classified in the mild pre-eclampsia group provided their earlier blood pressure readings were normal. The mild Vascular-Renal group or Essential Hypertension group showed either a lability of blood pressure or a tendency to elevation early in their antepartum care. The severe Vascular-Renal cases may have had some superimposed pre-eclampsia as pregnancy was terminated in all three cases.

Eighty-four per cent of the toxic cases gained more than one and a half pounds maximum per any one week in last three lunar months.

Read at the Scientific Session of the Associated Physicians of Long Island, held at East Williston, N. Y., June 20th, 1944.

Chart 1.

Group 1.	No. of Cases	No. Toxic Cases	% of Group becoming Toxic	% of Total becoming Toxic
Cases gaining over 1½ lbs. max./wk	201	21	10.4%	7. %
Group 2.—Cases gaining 1½ lbs. max./week or less	99	4	4. %	1.3%
Total:	300	25		8.3%

Chart 2.

	Average Total Weigh Gain	Average Max. Wgt. gain/week
Non-Toxic Cases	275	24.12
Toxic Cases	25	25.2
		1.85
		2.65

Conclusion

1. Attention to excessive rates of gain in the last three months of pregnancy resulted in a low incidence of severe toxemia in a sample of 300 private patient cases, but had no appreciable effect on the total incidence of mild toxemia.

2. Using an arbitrary index of a maximum weight gain in any one week of the last three lunar months of over one and a half pounds as an index of excessive water retention, sixty-seven per cent of the three hundred cases were so classified and 10.4% of this group became toxic.

Chart 3.

	Cases	Percent of Toxic Cases	Percent of Total Cases
Mild Pre-Eclampsia	12	48	4
Mild Vascular-Renal or Essential Hypertension	9	36	3
Severe Pre-Eclampsia	1	4	.33
Severe Vascular-Renal Eclampsia	3	12	1
Total:	25	100	8.33%



The Medical Sciences at Brown University

THE establishment of a Department of Medical Sciences at Brown University has been announced by President Henry M. Wriston. This department will perform a number of important functions within the University and in the relationships of the University to the medical profession and hospitals of the community.

Charles A. McDonald, M.D., and Alex M. Burgess, M. D., physicians connected with the Division of University Health for some time, have been appointed Professors of Health and Hygiene in this new department.

Through this department the University will assume a larger responsibility for the general education of its students in matters of health as a requisite of effective accomplishment in college and in after-college years. It will approach this responsibility in the light of the needs which have been revealed by the war experiences. Special attention will also be given to the orientation of students who are planning professional study in the art and science of medicine.

The Department of Medical Sciences

will also offer facilities for advanced study and research. This is designed in part to meet the needs and desires of recent graduates of medical schools whose post-graduate studies in certain specialized fields of medical science have been interrupted by war service.

Opportunities for specialized study will also be available to other interested members of the medical profession. Brown University is also prepared to co-operate in the development of programs of post-graduate study and research for members of the resident staffs of the hospitals of the community.

Fellowships in Health Education

TO provide men and women professionally trained in public health work who will aid the nation's army of polio fighters, The National Foundation for Infantile Paralysis has set aside the sum of \$50,000 for fellowships in health education.

Under this program, which has been developed in cooperation with the U. S. Public Health Service, qualified men of certain Selective Service classifications, as well as qualified women, will go into training starting this fall.

LOOKING BACK

William T. Daily, M.D.

Historian of the Alumni Association
Long Island College of Medicine
1944

IN 1850, while the physicians in this locality were looking forward to the day when a dispensary would be established, there occurred in this neighborhood, on this very street, an event that was of more than passing importance.

In Rochester, New York, there lived a family named Jerome, who were interested in public affairs. One son, Larry, was appointed Port Collector of Rochester, and another, Leonard, a lawyer, was appointed Consul to Trieste, on the Adriatic. These two political designations were made by the thirteenth President of the United States, Millard Fillmore, a whig. A third brother, Addison, 37, and his wife, Julia, 31, lived at 292 Henry Street, Brooklyn. This address today is the southwest corner of Henry and State Streets, the property of Rick's grocery store. However, a map of 1850 shows that 292 Henry Street was located where 426 Henry Street is today. This address, near Kane Street, is a private dwelling owned and occupied by Joseph Romeo. This address in 1850 was probably Addison Jerome's home, where Leonard, 34, and his wife, Clara, 25 years, stayed while awaiting not only a ship to take them to their new duties at Trieste, but also the arrival of an unborn child. This awaited child has made world history.

Having served four years at Trieste, Leonard became bored, and returned with his wife and children. Soon after his arrival, he pyramided to financial and social success. He controlled railroads, and Boards of Directors. He owned the *New York Times*; he built race tracks and raced his own fastest horses. He wanted money largely for leadership. In Madison Square he built his stables with which only the Emperor's mews of Paris could compare. A red brick building, faced with marble, housed his thoroughbreds and carriages of the best make. On the second floor he had the architect plan an enormous dance hall where the wealth and

social élite gathered to step sprightly to talented musicians. At each end of this dance hall was a fountain. Eau de Cologne gushed forth from one, and champagne from the other.

THE awaited baby girl born at 292 Henry Street and called Jennie was now in her early teens. Her father thought it time for her to make her debut, and Delmonico's, then at 5th Avenue and Fourteenth Street, was selected. Signor Delmonico showed considerable self-control when Mr. Jerome told him that for Jennie's debut party he wished to spend ten thousand dollars. "We never expected anything from you, Signor Jerome, but greatness," replied the hotel owner. The large ball room was decorated lavishly. An oval table for seventy-two guests had every inch covered with flowers, except an artificial lake in the center, thirty feet long and nearly as wide, having flower-covered wire which gave ample exercising space for the swans transported from Prospect Park.

Dr. J. Marion Sims, born ten miles south of Lancaster, South Carolina, in 1813, graduating from Jefferson Medical School, had tried general practice in several places, and failing, had volunteered in the Seminole War. He later located in Montgomery, Alabama, and finally in New York, hoping to recover his health. In this City he met opposition in making gynecology a specialty. He persisted, however, and the Woman's Hospital which he organized and served for fifteen years is a testimonial to his courage. Dr. Sims had strong Southern sympathies, and finding it uncomfortable to live in New York, closed his office, and at the age of forty-eight, sailed July 18, 1862 for Europe, opening an office in Paris. His operation on vesico-vaginal fistula in Paris gave him a place among the surgeons of Europe almost unparalleled. He was a special guest of the French Emperor at St. Cloud, while operating upon the nobility.

Clara Jerome, Jennie's mother, having been a patient of Dr. Sims, and wishing to remain under his professional care, went to Paris to be near him taking her two daughters with her. Possessed of wealth and social standing in New York, they

Alumni Day Address, April 29, 1944.

were able to move in the best society in Paris.

Strife between Germany and France was increasing and, in 1870, the Franco-Prussian war was declared, as three hundred thousand Prussian soldiers closed in on Paris. Like today, the Palace at Versailles was in Germany's control. Bismarck ruled from there. The American government warned all nationals to leave France, but the ladies Jerome hesitated. Finally they arrived at Cowes, on the Isle of Wight, in the summer of 1871. At this time, the officers of the cruiser *Ariadne* gave a ball at the Royal Yacht Squadron Castle where Jennie Jerome was presented to Lord Randolph Churchill. On April 15, 1874, their wedding took place at the British Embassy in Paris.

In 1874, the London *Times*, among the birth notices, printed "On the 30th of November at Blenheim Palace, the Lady Randolph Churchill, prematurely, of a son." While he was only a seven months' premature, it is a blessing that he reached man's estate.

Civilization is the debtor to Jennie Jerome, of 292 Henry Street, for presenting to this world her distinguished son, the present Prime Minister of Great Britain, Winston Churchill.

ABOUT 1850 the physicians in general practice, in the sixth and tenth wards in the City of Brooklyn, decided to open a dispensary for the sick poor. Because the sixth ward was inhabited largely by Germans it was decided to locate it at 145 Court Street, between Atlantic Avenue and Pacific Street.

A painted sign, extending across the front of this private dwelling, announced to passers-by that it was "The Brooklyn German General Dispensary." Not only were ambulatory cases treated, but beds were provided and used by medical and surgical cases. It was more than the sign stated. It was a hospital. This humble beginning in March, 1856, eventually became the Long Island College Hospital.

The physicians who organized this dispensary were Gustave Braeunlich of 285 Henry Street, Louis Bauer, 167 Court Street, William Arming, 75 Court Street, Edward Maebert, 109 Union Street, Herman Zundt, 42 Dean Street, and August Kalb or Kalt. It was the intention of these founders to build, eventually, a large German Hospital to care for the German

population. This plan, however, did not materialize. It is possible that the neighborhood was changing. Reading the Dispensary admission book, called the *Diarium*, of November, 1857, confirms this. One reads such names as Patrick Ryan, Mary Ryan, William Crogan, Peter Morrow, William Buchanan, John Lowry, Ed. Mahaney, Dennis Coles, Catherine O'Reilly, Mrs. Graham, Mrs. Fitzsimmons, Ann Cassidy, Bernard McCue and William Casey.

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pare a circular letter, setting forth the object and scope of the institution.

A communication was read at a meeting on March 13, 1858, from Doctors Ayres, Bauer, Braeunlich, Byrne, and Olmstead, announcing their resignations. It was these five physicians who signed the before-mentioned "Explanation" which announced the merging of the General German Dispensary. The communication was laid upon the table. A nominating committee reported that Charles Christmas had been selected for President of the Regents Board, and he was unanimously elected. At a meeting the following week Mr. Christmas, who was absent when elected, declined the office. A committee was appointed to wait on him, and presumably to work on him, hoping to change his mind. The committee failed. Samuel Sloan was elected. Two thousand circular letters were ordered printed and distributed, acquainting the public with the object of the College Hospital.

APRIL 17, 1858 was the first time that the term joint council and faculty was used. John Byrne, who had been made a member of the council, apparently wanted more action, requesting his transfer to Physician of the Hospital.

Things were shaping up. Mr. Esslinger was appointed Warden to the Hospital. The Dispensary on Court Street was vacated and the committee had a free hand either to let the place or cancel the lease, whichever it thought more advantageous. On May 15, 1858, the Committee on Furniture reported to the Board that they had contracted to purchase twenty-five bedsteads at four dollars each. Housekeeping in the Perry Mansion was imminent.

On June 3, 1858, a dinner or festival was held at the Atheneum, northeast corner of Atlantic Avenue and Clinton Street. The following day the *Brooklyn Daily Eagle*, under the heading "Inauguration of the Long Island College Hospital," recorded the meeting. Mr. Sloan made the opening address. Leading citizens of church, profession and business attended.

Money, which always is elusive, was coming in slowly. It was decided to engage the outstanding orator, Ralph Waldo Emerson, to deliver a lecture. His effort netted one hundred dollars.

NOVEMBER 7, 1858 was a joyous day. The dream was realized. A large

hospital was available to care for the sick poor. The doors of the Perry Mansion, now the Long Island College Hospital, were opened to the public. This joy, however, was of short duration. Ten months later the Treasurer reported that debts exceeded five thousand dollars. A committee of five was appointed to report on a manner to liquidate the debts. No new patients, excepting accident cases, were to be admitted. The committee soon reported that in their judgment the property and building should be sold at public auction, following a few weeks' notice of sale in the newspapers, and handbills printed extensively. The auction was scheduled for November 15, 1859.

Imagine the wasted energy, the blasted hopes, the injured pride of these strong-hearted builders. Their young plant had failed to take root. The doors closed. Only Esslinger remained, and he without compensation save his shelter.

IT was three days before Christmas, 1859 that the Board of Regents reported the sale at auction of the hospital property to Dr. William H. Dudley for \$28 550, subject to a mortgage of \$20,000. It remained in his hands until May 11th, 1865.

The founders were men of courage and determination. Defeat was not a part of their protoplasm. On Thursday evening, March 29, 1860, the reopening lecture was given, and the following day the regular lectures began. On April 1, 1861, the treasury had \$23.20. The first class graduated July 24, 1861 at exercises held in the chapel of Packer Institute.

The Honorable Samuel Sloan, having served for three years, resigned, and Mr. H. B. Cromwell was elected President. In less than four months Mr. Cromwell was ready to quit, having been unable to obtain the necessary co-operation and assistance from the Board of Regents. Once again Samuel Sloan was called to carry the responsibility.

AS today students of medicine are distracted with war and concerned about the part that they are to play therein, so also were the students here in 1861.

Jefferson Davis had been elected President of the Confederacy six weeks before the second regular course of lectures began. Before commencement day that year, Fort Sumter had been fired upon, and four days later surrendered. Lincoln

had called for volunteers. The Battle of Bull Run had taken place. Plans were shaping to have McClellan command the Union Army.

In 1862 the Committee of the College Hospital was trying to raise funds, and had arranged for the Reverend Dr. Storrs, Reverend Dr. Vinton and Reverend Mr. Willetts to give a course of lectures. Their efforts netted \$415. At this same time, the Virginia, the rebuilt Merrimac, had destroyed the Cumberland and the Congress at Hampton News. The Union Monitor, designed by John Ericson and built in Rowland's shipyard in Greenpoint, was maneuvering to destroy the Merrimac. While McClellan's peninsula campaign was on, the Regents met at Dr. Dudley's home, 291 Henry Street, to discuss the care of one hundred and twenty-five wounded soldiers admitted to the Long Island College Hospital.

There is no record of a meeting of the Board of Regents from December 29, 1862 to March 17, 1864. History, however, has been more careful, and has recorded during that interval Lincoln's Proclamation of Emancipation, the Gettysburg Address, and the surrender of Lee at Gettysburg.

Five days before Dr. Mason reported that seven thousand dollars had been raised to help support the institution, Ulysses Grant was made Commander in Chief of the Union Army. In less than a month Lee surrendered at Appomattox, on April 9, 1865.

Lincoln had proclaimed April 14, 1865, as the day that once again the Stars and Stripes, that four years before had been torn down, would fly at Fort Sumter.

A steamboat, the Oceanus, was commissioned by the government to carry the

participants in the exercises.

Of all the people in the Union, the orator selected for the address was the Pastor of Plymouth Church, Reverend Henry Ward Beecher. The first incorporator of the Long Island College Hospital, which meant the first one to have given one hundred dollars, the Pastor of the Church of the Pilgrims, Henry and Remsen Streets, Reverend Dr. Storrs, was selected to offer the concluding prayer.

At Sumter on April 14, Dr. Beecher read his address, which was unusual for him, hoping to avoid any misinterpretation of his sentiment on such a crucial occasion.

The following day the joyous party sailed homeward. Two days later, off Hampton Roads, a steamer was sighted with her flag at half-mast. A pilot boat, close by, also had her flag at half-mast. Inquiry was made. Stunning indeed was the reply. Lincoln was dead.

TODAY, Alumni Day, a few hours set aside each year for the graduates to return and visit the scenes of their medical schooling, is a fitting time to look back at the stout hearted pioneers who made this day possible. Because we did not have the acquaintance of these founders, does not alter their importance. It impresses upon us our loss.

As long as this institution endures, so shall the names of Arming, Ayres, Bauer, Braeunlich, Byrne, Kalb, Maebert, Mitchell, Sloan and Zundt.

There should be engraved upon the memory of every graduate the name of Dr. William H. Dudley. He bought at auction, he owned, he carried, he was the Long Island College Hospital.



Baruch Committee on Physical Medicine

DR. RAY LYMAN WILBUR, chairman of the Baruch Committee on Physical Medicine, and Dr. Frank H. Krusen, Director, recently announced the names of 19 eminent scientists who will act on the organization's Scientific Advisory Committee and the Committee on War and Postwar Physical Rehabilitation and Reconditioning, which will have to do largely with wounded or ill soldiers.

It was further announced that Dr. Ern-

est J. Jaqua, of Eugene, Oregon, former President of Scripps College, will be Educational Director.

The offices of the Committee, which was created by a recent gift of \$1,100,000 from Bernard M. Baruch, are at 597 Madison Avenue, New York City. Miss Grace Keefe, Executive Secretary, will supply, to those asking for it, copies of the report on which Mr. Baruch based his donation.

The purpose of the endowment is to further the study of the broad field of the use of physical procedures and facilities in the care of the sick.

CONTEMPORARY PROGRESS

RHINOLARYNGOLOGY

Elimination of Intranasal Pack by the Topical Use of Thrombin

H. N. STEVENSON (*Annals of Otolaryngology, Rhinology and Laryngology*, 53:159, March 1944) reports the local use of thrombin after intranasal operations, such as submucous resection or intranasal drainage of the maxillary sinuses. Thrombin prepared from bovine plasma was employed in a solution of 10,000 Iowa units to 10 cc. of saline solution. After completion of the operation tampons soaked in ephedrine-adrenalin solution were inserted into the operative field. These tampons were removed "after a short time," and suction applied to make the field "as dry as possible." The thrombin solution was then sprayed over the entire operative field. When the oozing of blood was controlled, plugs covered with petrolatum were inserted into the external nares. These plugs were removed in twenty-four hours and a 1:20,000 tyrothricin solution was employed for irrigation of the nasal chamber and exposed sinuses; irrigation was repeated daily. With this method postoperative bleeding was less than usual; the postoperative swelling of the nasal membrane was also "decidedly less" than usual. After the removal of the plugs from the external nares, the patient was able "to breathe moderately" through each side of the nose; and was much more comfortable than when packing was employed. The pain and additional bleeding incident to removal of the packing were also avoided. Healing and return of normal nasal function occurred more promptly than with any other method of postoperative treatment.

COMMENT

A number of rhinologists have not been using packing following submucous resection of the nasal septum, with apparently very

satisfactory results, for some time. Certainly the patient is more comfortable if the nose is not packed. However, it is well known that hemorrhage may be a serious consideration at times. The author's suggestion would seem well worth trying.

L.C.McH.

Method of Application of Drugs to the Nasal Mucosa

D. B. BUTLER and A. C. IVY (*Archives of Otolaryngology*, 39:109, Feb. 1944) report a study of effectiveness of different methods of application—drops, sprays and inhalers—of the vasoconstrictor d,l-desoxyephedrine. The effect of the applications was determined by measurement of the nasal resistance by a modification of the method of Sternstein and Schur (1936). These studies showed that inhalers and nasal sprays are more effective methods for the application of a vasoconstrictor drug to the nasal mucosa than nasal drops. Repeated administration of the drug by inhalers and sprays produced a similar effect on the nasal mucosa; repeated administration by nasal drops caused more pathologic changes than either of the other two methods. On the basis of these studies the authors conclude that in acute rhinological conditions, nasal inhalers and sprays should be used in most instances for local applications to the nasal mucosa. Drops should be used only when it is necessary to apply the drug to some local area in the nasal chamber, as at the ostium of a paranasal sinus. When prolonged and repeated medication is necessary the use of a spray or inhaler is the method of choice, and nasal drops should be used "with caution."

COMMENT

This brings up an old, old argument and apparently adds some weight to the "anti-drop" side of the question. L.C.McH.

MEDICAL TIMES, AUGUST, 1944

Cancer of the Larynx; a Radiotherapeutic Test as an Aid in Choosing Between Operation and Irradiation

MAX CUTLER (*Archives of Otolaryngology*, 39:53, Jan. 1944) has previously reported a method of radiation therapy of cancer of the larynx which consists of two cycles of roentgen therapy separated by an interval of eleven to fifteen days. This makes it possible to use the first cycle of therapy as a test of the relative radiosensitivity of the lesion and an aid in deciding whether operation should be done or the second cycle of radiation therapy given. At the end of twenty-one days from the beginning of treatment or fifteen days from the last treatment, if examination shows that the lesion has shown a marked regression, the second cycle of radiation therapy is given. Some of the best results in cancer of the larynx have been obtained with this "interrupted" method of radiation, in the author's experience. If the lesion shows little or no response to the first cycle of radiotherapy, the second cycle is not given, but laryngectomy is done four to six weeks later. This method has proved of definite value in certain cases, and it has been found that laryngectomy can be done with safety if the radiotherapeutic test fails. The author has found that certain intrinsic lesions of the true vocal cord with complete fixation of the cords and subglottic extension almost invariably require laryngectomy. But in cases with only partial fixation of the cords excellent results can often be obtained with modern methods of radiation.

COMMENT

We shall await further reports regarding this radiation therapy test with very considerable interest. If the test dosage does not interfere in any way with healing or occasion reaction to surgical procedures, it may be of very great assistance in making decisions which are at times extremely difficult.

L.C.McH.

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The Treatment of Severe Tonsillitis in a Naval Dispensary

EUGENE GETTELMAN and S. P. KATZ (*United States Naval Medical Bulletin*, 42: 399, Feb. 1944) report the treatment of 150 cases of severe acute tonsillitis and pharyngitis with sulfonamides. All of these patients showed a patchy or membranous exudate on the tonsils or on islands of lymphoid tissue in the pharynx. In these 150 cases treatment with a sulfonamide was started immediately after admission to the dispensary. In the

first cases treated relatively large doses of sulfonamides were used with a view to obtaining a high blood concentration quickly. By experimentally reducing these doses, it was found that the minimum effective dosage was an initial dose of 30 grains of sulfathiazole or sulfanilamide, sulfadiazine not being available at that time, followed by 7.7 grains of sulfathiazole or 10 grains of sulfanilamide every four hours, omitting the early morning dose (2 a.m.). If complications "threatened," larger doses were used in some cases. As the duration of symptoms was greatly shortened by the sulfonamide treatment, prolonged administration was

not necessary and no serious toxic effects were observed. Of the milder signs of toxicity, cyanosis following the use of sulfanilamide was most frequent. At the same time that these patients were under treatment, there were 15 patients with acute tonsillitis and pharyngitis of a similar type admitted, who were not given any sulfa drug, and 25 patients who were given a sulfa drug only when other therapy failed to give any relief. In the first 15 cases the average duration of fever was 77.6 hours and the average hospital stay 109 hours; in the second group (25 cases) the average duration of fever

was 60 hours and the average hospital stay 95 hours. In the 150 cases in which sulfonamide treatment was given early, the average duration of fever was reduced to 28.8 hours and the average hospital stay to 55.7 hours.

COMMENT

Our own experience agrees with that of these authors in that most cases of tonsillitis respond nicely to sulfonamide therapy. We have been better satisfied with sulfadiazine than the other sulfonamides up to the present time.

L.C.McH.

OTOLOGY

Otitis Externa

W. H. JOHNSTON (*Annals of Otolology, Rhinology and Laryngology*, 53:5, March 1944) discusses various types of external otitis. As the external ear is "chiefly skin," it is subject to all types of skin disease. One of the most common types of otitis externa is circumscribed inflammation and furuncle. Otomycosis is another frequent inflammatory disease of the external ear, although it was formerly thought to be rare. In the usual type of mycotic diseases there is some pain, itching and irritation, with a thin discharge that typically has a "musty" odor. Treatment of otitis externa includes thorough cleansing, removal of the cause if it can be ascertained, such as a focus of infection, use of germicides, protection of the inflamed area and general supportive measures. Many remedies have been recommended for local application in otitis externa. For both furunculosis and mycosis, the author has found metacresylacetate most useful, as it has an anesthetic as well as a germicidal action. For the "simple cases" of otitis externa the use of an ointment containing phenol, precipitated sulphur and salicylic acid 9 grains each to 1 ounce of an animal oil base (neatsol) has been of value. Furunculosis has a tendency to recur; after an acute inflammation the lining of the meatus may be sterilized and hardened by the application of drops of salicylic acid in alcohol. In case of a diffuse otitis

externa of the nature of erysipelas, chemotherapy is indicated.

COMMENT

We too, have found metacresylacetate very useful in the acutely inflamed external auditory meatus whether due to pyogenic infection or mycosis. After subsidence of the acute inflammation, we have found that light dusting with Sulzberger's powder is very helpful also.

L.C.McH.

Aero-Otitis Media; a Roentgenological Study

J. C. LARKIN (*American Journal of Roentgenology*, 51:178, Feb. 1944) describes a method for the roentgenological study of cases of aero-otitis media. Aero-otitis media is due to sudden changes of air pressure (chiefly in aviators) which result in inequality between air pressure in the tympanic cavity and auditory tube and in the external auditory meatus. This results in "a collapse" of the tympanic membrane against the labyrinthine wall and a shift in the auditory ossicles, usually followed by congestion and inflammation and sometimes hemorrhages into the tympanic membrane. If the pressure is not equalized promptly by auto-inflation or other means, pain, vertigo, tinnitus and deafness result. For roentgenological study of aero-otitis, a modified vertico-submental view is used, similar to that for examination of the sphenoid sinus. A

3 mm. aluminum filter is used to increase the effective wave length and 60 cm. cone with a 10 cm. aperture to cut down the scattered rays; this permits visualization of the minute structures in clearer detail. Lipiodol is introduced into the external canal to outline the medial aspect of the external auditory meatus and the attachment of the entire tympanic membrane. This outline is traced on a clear film and superimposed in the film showing the ossicles of the patient. In the study of a number of cases of aero-otitis media, it has been found that the position of the auditory ossicles cannot be regarded as a criterion for the diagnosis of aero-otitis media, but clouding of the ossicles and the surrounding cells in the petrous bone and mastoid, due to the presence of fluid, is diagnostic of aero-otitis. The findings indicate that the pharyngeal ostium of the auditory tube is blocked in aero-otitis media, and that the application of 10 per cent cocaine causes a shrinking of the tissues and relieves this blockage.

COMMENT

The roentgenological study of aero-otitis media would seem to be mainly of didactic interest. Recognition of the condition is not difficult and x-ray study of the condition would seem to be of little value to the patient concerned.

L.C.McH.

Changes of the Temporal Bone in Leukemia and Osteitis Fibrosa

HANS BRUNNER (*Archives of Otolaryngology*, 39:1, Jan. 1944) describes the pathological changes observed in the temporal bone in one case of chronic lymphatic leukemia in a woman sixty-two years of age and one case of osteitis fibrosa of von Recklinghausen in a man fifty-six years of age. In the case of lymphatic leukemia only the periosteal layer of bony capsule of the labyrinth was involved. In this layer leukemic infiltration had produced lacunar resorption characterized by Howship's lacunae without osteoclasts; this type of lacunar resorption of bone is rare in lymphatic leukemia, but indicates the "possible malignancy" of leukemia cells. In the case of osteitis fibrosa, the transformation of bone began in the periosteal layer, but extended into the enchondral layer and in some places even into the endosteal layer;

but it did not penetrate the endosteum or invade the internal ear. The microscopic changes in the bony capsule of the labyrinth in osteitis fibrosa of Recklinghausen were found to be very similar to those present in osteitis deformans (Paget's disease). The changes in the bony capsule are diffuse "from the beginning" in both osteitis fibrosa and osteitis deformans. Otosclerosis is characteristically a localized disease of the bony capsule, and so-called diffuse otosclerosis results from the fusion of several otosclerotic foci. Otosclerosis usually results in ankylosis of the stapes; ankylosis of the stapes rarely occurs in osteitis fibrosa or osteitis deformans; deafness is frequently noted in osteitis deformans but its cause is different from that of the deafness of otosclerosis. From these studies the author concludes that otosclerosis cannot be regarded as a localized form of osteitis fibrosa or osteitis deformans.

Possible Value of Nontoxic Concentration of Fluorine in the Prevention of Deafness from Otosclerosis and Fibrosis

ALFRED LEVY (*Archives of Otolaryngology*, 39:152, Feb. 1944) notes that in a previous paper he reported feeding experiments on animals indicating that fluorine has an effect on the bony labyrinth. Other investigators have also found that fluorine has an effect on bone metabolism. Recently a survey of deafness in school children has been made in 68 counties of Illinois; a total of 132,572 children were examined; defective hearing was found in 6,328, or 4.7 per cent. In counties in which the water does not contain fluorine, 109,869 children were examined; defective hearing was found in 5,406 or 4.9 per cent; in 21,200 children in Chicago, the percentage with defective hearing was 4.3; the water supply of Chicago comes from Lake Michigan and does not contain fluorine. In four counties near Chicago in which the drinking water contains fluorine not to exceed 1.4 parts per million, of 20,488 children examined, 574, or 2.8 per cent, showed defective hearing. The population of these four counties is varied, and the findings indicate a definitely lowered incidence of deafness in children where the drinking water contains fluorine in nontoxic amounts. A much more extensive study of this prob-

lem is necessary before any definite conclusions can be drawn. A recent article by Spira in the *Journal of Laryngology and Otology*, April 1943 advances the theory that otosclerosis is "a fluorosis operating through the parathyroid gland."



COMMENT

This suggested study is reminiscent of the discoveries regarding goiter in past years and of some of the recent work regarding dental decay and discoloration. It is to be hoped that it may be carried out.

L.C.McH.

Some Industrial Insurance Facts

LIFE insurance benefits of \$6,477,258 have been paid to employees of E. I. du Pont de Nemours & Co. and their beneficiaries since adoption of a group insurance plan a quarter century ago.

A total of 4750 employees or their families have participated in the benefits, according to a company announcement marking the plan's 25th anniversary. The plan was adopted in 1919 as a wholly company-financed program, and has been maintained on that basis. All employees receive policies upon completion of one year of service. Graduated increases in coverage with each year of employment are provided for employees with dependents, the coverage increasing from \$700 at the end of a year to \$1500 at the end of five years.

Insurance now in force totals approximately \$85,000,000, not including that of subsidiary companies, to which coverage also is extended. More than 74,000 employees are insured, including workers at government plants operated by Du Pont.

The statistics show the mortality rate among company employees to be well below the average indicated by general actuarial experience. Officials attribute the showing largely to an active safety program, annual medical examinations of employees and careful attention to industrial health measures.

In addition to the life insurance payments, the company reported accident and health benefits of \$9,423,980 paid to employees under the accident and health insurance plan in which the cost is shared by the company and the insured. This plan was put into effect in 1930. Weekly benefits for non-occupational illness or injuries are paid, supplementing disability wages disbursed to employees on sick leave.

U. S. Soldiers Fittest Ever

TODAY'S American soldier is the healthiest to ever take the field against the nation's enemies, Maj. Gen. Norman T. Kirk, Army Surgeon General, maintains.

The rigid screening process by which both civilian and military doctors have weeded out the physically and emotionally unfit is largely responsible.

In previous wars, the General reports, pneumonia has been responsible for many deaths but during the winter of 1943 something under 1 per cent of cases of pneumonia in the United States armed forces died of that disease.

Meningitis, which 50 years ago had a death rate approximating 80 per cent and which 25 years ago had been lowered to a death rate of 40 per cent has today in our armed forces a death rate approximating 5 per cent. In one great military installation there have been reported 76 consecutive cases of meningitis without a single death.

These figures can be applied to most of the common diseases that affect mankind, particularly under military conditions.

Never before has an army more physically fit than this one taken the field against our nation's enemies.

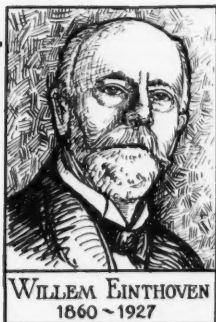
The low death rate is a tribute not only to physicians but particularly also the magnificent organization for medical research which is carried on during the war period. This research has been reflected in the exceedingly low death rates from wounds of all men not killed outright in the use of such remarkable products as blood plasma, the sulfonamide drugs, penicillin and in the preventive measures for the control of measles, meningitis, typhus and many tropical diseases.

Medical BOOK NEWS

Edited by

ALFRED E. SHIPLEY, M.D., Dr. P.H.

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, 16, N. Y.



Classical Quotations

● This instrument—the string galvanometer—is essentially composed of a thin silver-coated quartz filament, which is stretched like a string, in a strong magnetic field. When an electric current is conducted through this filament, the filament reveals a movement which can be observed and photographed by means of considerable magnification.

WILLIAM EINTHOVEN

Die galvanometrische Registrierung des menschlichen Elektrokardiogramms. *Pflüger's Arch. f. d. ges. Physiol.* 99: 472-480, 1903.

About Dietetics

The Science of Nutrition. By Henry C. Sherman. New York, Columbia University Press, [c. 1943]. 253 pages. 8vo. Cloth, \$2.75.

THIS book contains 16 chapters of which the first nine cover the elements of nutrition for the layman.

The last chapters contain a timely discussion of the social trends of nutrition. The author discusses general dietetic shortcomings in the U.S.A. He aptly states that these shortcomings, however, do not prevent an increased stature and increase in weight of our present generation.

A philosophical discussion on future nutritional policy and the possibility of increased well being and longevity follow.

M. ANT

Fatty Acids

Biochemistry of the Fatty Acids and Their Compounds, the Lipids. By W. R. Bloor. [American Chemical Society Monograph Series.] New York, Reinhold Publishing Co. [c. 1943]. 387 pages, 8vo. Cloth, \$6.00.

THIS is one of a series of scientific and technologic monographs sponsored by the American Chemical Society. The author is regarded as the outstanding authority on the biochemistry of liquids. The book is, as expected, a comprehensive and authoritative dissertation on fatty acids and their compounds. The author devotes a large section to the chemistry of the lipids and to the digestion and absorption of fats. There follow chapters on lipid composition of blood and tissues, the effect of various diseases upon blood lipids, and an extensive discussion on the metabolism of these substances. The book reads well and is highly recommended to physicians.

WILLIAM S. COLLENS

Microscopy

Microscopic Technique in Biology and Medicine. By E. V. Cowdry. Baltimore, Williams & Wilkins Co., [c. 1943]. 206 pages. 8vo. Cloth, \$4.00.

MICROSCOPIC Technique in Biology and Medicine by E. V. Cowdry is one of the must books to be added to the bookshelves of a medical and particularly of a hospital laboratory. In accessible form it contains a wealth of useful information for the laboratory worker. As stated in the preface "definite information about specific matters is likely to be more in demand than general statements." And so the author has made available such "specific information" in his book. Not only will the reader profit by its contained knowledge, but he will also save much time in the securing of it. An attempt to describe or enumerate its contents in a review is futile because of its great scope and detail. The author is to be congratulated in this most useful contribution, and laboratory workers must be indebted to him for supplying a long felt want and an aid to their service in medicine.

MAX LEDERER

A History of Medicine

A Hundred Years of Medicine. By C. D. Haagenen & Wyndham E. B. Lloyd. New York, Sheridan House, [c. 1943], 44 pages. 8vo. Cloth, \$3.75.

THIS story of medicine is written for the layman, who will enjoy it, yet have difficulty here and there with technical explanations. Medical achievements of the last hundred years are discussed, too sketchily, we believe, to please the physician interested in the history of medicine. It is too bad that a serious misstatement like, "It is apparent that there has been no significant reduction in (maternal) mortality during the last 20 years," should be perpetuated, when, as a matter of fact, the reverse is true.

CHARLES A. GORDON

Trauma and the Nervous System

The Mind of the Injured Man. By Joseph L. Fetterman, M.D. Chicago, Industrial Medicine Book Company, [c. 1943]. 260 pages, illustrated. 8vo. Cloth, \$4.00.

DR. FETTERMAN has rendered a signal service to all those working in the field of neurology and psychiatry by their specialists or general practitioners. The reviewer knows of no book which has packed within its relatively few pages such a wealth of practical information which is not only highly readable, but holds and sustains the interest. The reader feels as though he were conversing with the author in a friendly conversational fashion whereby the latter's rich experience is lucidly formulated with respect to the various ramifications of injury to the nervous system.

Dr. Fetterman is at his best in delineating the organic or structural aspects of the well-chosen cases presented. He is also keenly perceiving concerning the psychogenic mechanisms involved, and particularly the need of keeping a weather eye for blending of the mental with the organic factors and their not infrequent inseparability.

Physicians and neuropsychiatrists engaged in compensation, insurance, and medico-legal considerations can significantly profit by the author's experience-born book, which is replete with drawings, photographs, and a generous, carefully selected bibliography.

FREDERICK L. PATRY

Forbus' Pathology

Reaction to Injury. Pathology for Students of Disease Based on the Functional and Morphological

Responses of Tissues to Injurious Agents. Wiley D. Forbus, M.D. Baltimore. The Williams & Wilkins Company, [c. 1934]. 797 pages, illustrated. 4to. Cloth, \$9.00.

THIS book is a welcome departure from the stereotype pattern of most of the present day textbooks of pathology. The stress is laid on the evolution of the disease process as it affects the host rather than the much hackneyed approach dealing with the specific etiology of the disease. The preface alone is worth the price of the volume as it establishes a broad conception of student education in respect to disease. The book is based on the principle that the individual responds to disease agents and influences in his environment in only three ways, by resisting, by submitting, and by effecting an adaptation. The book deals with the nature and causation of disease, and with the resistive reactions thereto, as well as the inflammatory process and all the infectious diseases that arise therefrom. It also supplies a brief introduction to the history and nature of disease which is well supplied with references to the older source material. The rest of the book carries numerous references to the subject matter and is profusely illustrated. It is convenient reading in that it embodies the double column that is being used with increasing frequency in medical texts. This book can be recommended as a text for medical students and practicing physicians.

THEO. J. CURPHEY

Bockus—Vol. 2

Gastro-Enterology. By Henry L. Bockus, M. D. *Volume II. The Small and large Intestine and Peritoneum.* Three volumes to be published, Philadelphia, W. B. Saunders Company, [c. 1944]. 975 pages, illustrated. 4to. Cloth. Price of set, \$35.00

VOLUME II of this work lives up to the high standard set by Volume I. It deals with disorders of the small and large intestine, peritoneum, mesentery and omentum, and the information offered is not only practical but thoroughly inclusive. Especially worthy of mention are the chapters on regional enteritis, diverticula, and functional disturbances of the colon. The advice on treatment based as it is on a large experience is very good. Thus far this treatise earns the distinction of being considered a standard, up-to-date reference work on Gastroenterology.

HENRY F. KRAMER

New Edition of Osler

The Principles and Practice of Medicine. ORIGINALLY WRITTEN BY Sir William Osler, Bart, M.D., F.R.C.P., F.R.S. DESIGNED FOR THE USE OF PRACTITIONERS AND STUDENTS OF MEDICINE. By Henry A. Christian, M.D. 15th Edition. New York, D. Appleton-Century Co., Inc., [c. 1944]. 1498 pages. 8vo. Cloth, \$9.50.

ONLY eighteen months have elapsed since the last (the fourteenth) edition appeared. The reasons for this are adequately expressed in the preface, the reading of which is recommended. A number of new chapters are noted that did not appear in the previous edition. There is the chapter "Penicillin in the Treatment of Pyogenic Infections". There is also a discussion of the use of Globin Insulin in the treatment of diabetes, and a new chapter on "Herniation of Nucleus Pulposus". Many changes in the text are also observed. All of this is evidence of the up to dateness of this edition. One is quite assured that the next edition will contain a more adequate discussion of Tropical Diseases. The subject of Malaria however, covers sixteen pages and meets all the requirements of the student and general practitioner.

It is evident that the merit which made Osler's textbook famous for half a century is being maintained and brought up to the minute by another eminent teacher who is sensitive to the needs of the student and the general practitioner.

S. R. BLATTEIS

Obstetrical Syllabus

Synopsis of Obstetrics. By Jennings C. Litzenberg, M.D. Second Edition St. Louis, The C. V. Mosby Company, [c. 1943]. 405, illustrated. 12mo. Cloth, \$5.00.

IN presenting the second edition of Litzenberg's *Synopsis Of Obstetrics*, the author has brought up to date one of the really good works of its kind. The chapters on diet in pregnancy and blood diseases of gestation are admirably revised. Caudal anaesthesia is judiciously presented, and truly evaluated in the light of accumulating experience. Sulfonamide therapy has likewise been accorded seasoned judgment in presentation. Controversial subjects are given a decidedly fair discussion. The rather detailed chapter on toxemias represents an open minded review of a polemic entity. Throughout the book, an incredible number of excellent illustrative diagrams amplify the text. Important pathology is also well illustrated within the scope of a synopsis. With due regard paid to the limitations of a

volume of its type, the work is a complete abstract of all salient obstetrical subjects. The book should prove of particular value as a syllabus for teaching purposes.

ALFRED A. SCHENONE

Backache

Backache and Sciatic Neuritis. Back Inquiries—Deformities—Diseases—Disabilities. With Notes on the Pelvis, Neck, and Brachial Neuritis. By Philip Lewin, M.D. Philadelphia, Lea & Febiger, [c. 1943]. 745 pages, illustrated. 8vo. Cloth, \$10.00.

THIS book is an exhaustive survey of the entire subject. It deals with the most common as well as the unusual cases of backache and sciatic neuritis.

There are 45 Chapters and many references to the most important articles dealing with the subject. This is a timely book written with a facile pen, practical in its approach and instructive in its method of presentation. It is highly recommended because of its thoroughness and usefulness.

IRVING J. SANDS

May's Latest Ophthalmology

Manual of the Diseases of the Eye. By Charles H. May, M.D. Eighteenth Edition, Baltimore, Williams & Wilkins Company, [c. 1943]. 520 pages, illustrated. 12 mo. Cloth, \$4.00.

THIS Manual has now reached its eighteenth edition. During the years of its evolution, this volume has gradually departed more and more from the plan it apparently followed as represented by Duane's translation of Fuchs' classical works. This is not an unexpected variation when we recall that no recent editions of Duane-Fuchs have been published in many years. The reviewer predicts that this classical form of "ophthalmology for the medical students" will eventually show radical changes until it more nearly states the actual needs of the medical students of today. There will be less on refraction, which will be considered an elective course and less on ophthalmic surgery, which will be studied as a post-graduate subject. Stress will be laid on the medical aspects of refractive errors and the fact that refractive errors represent biological variation rather than a disease will be included in those pages now devoted to technique.

In any event, the present work will certainly fulfill the major need of the medical student and general practitioner for many years to come.

The chapters on refraction are apparently the least modern of the numerous subjects dealt with in this work.

JOHN N. EVANS

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review noted will be promptly published shortly after acknowledgment of receipt has been made in this column.

A Manual of Physical Therapy. By Richard Kovacs, M.D. 3rd Edition. Revised. Philadelphia, Lea & Febiger, [c. 1944]. 309 pages, illustrated. 8vo. Cloth, \$3.25.

Fundamentals of Psychiatry. By Edward A. Strecker, M.D. 2nd Edition. Philadelphia, J. B. Lippincott Co., [c. 1943]. 219 pages, illustrated. 12mo. Cloth, \$3.00.

Practical Malaria Control. A Handbook for Field Workers. By Carl E. M. Gunther, M.D. New York, Philosophical Library, Inc., [c. 1944]. 91 pages, 12mo. Cloth, \$2.50.

Medical Diagnosis. Applied Physical Diagnosis. Edited by Roscoe L. Pullen, M.D. Philadelphia, W. B. Saunders Company, [c. 1944]. 1106 pages, illustrated. 4to. Cloth, \$10.00.

The American Illustrated Medical Dictionary. A Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc. By W. A. Newman Dorland,

M.D., Lt. Col., M.R.C., U.S.A. 20th Edition. Revised. Philadelphia, W. B. Saunders Company, [c. 1944]. 1668 pages, illustrated. 8vo. Cloth. Plain, \$7.00. Thumb-indexed, \$7.50.

Aesculapius in Latin America. By Aristides A. Moll. Philadelphia, W. B. Saunders Company, [c. 1944]. 639 pages, illustrated. 8vo. Cloth, \$7.00.

The Management of Neurosyphilis. By Bernhard Dattner, M.D. with the collaboration of Evan W. Thomas, M.D. & Gertrude Wexler, M.D. New York, Grune & Stratton, [c. 1944]. 398 pages. 8vo. Cloth, \$5.50.

The Treatment of Peptic Ulcer. By George J. Heuer, M.D. Philadelphia, J. B. Lippincott Co., [c. 1944]. 118 pages. 8vo. Cloth, \$3.00.

Technique in Trauma. Planned Timing in the Treatment of Wounds Including Burns. From The Montreal General Hospital and McGill University. By Fraser B. Gurd, M.D. & F. Douglas Ackman, M.D. Philadelphia, J. B. Lippincott Co., [c. 1944]. 68 pages, illustrated. 8vo. Cloth, \$2.00.

EULOGY OF THE DOCTOR

HERE are men and classes of men that stand above the common herd, the soldier, the sailor, the shepherd not infrequently, the artist rarely, rarer still the clergyman, the physician almost as a rule. He is the flower of our civilization and when that stage of man is done with, only to be marveled at in history he will be thought to have shared but little in the defects of the period and to have most notably exhibited the virtues of the race. Generosity he has, such as is possible only to those who practice an art and never to those who drive a trade: discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are most important, herculean cheerfulness and courage. So it is that, he brings air and cheer into the sick room and often enough, though not so often as he desires, brings healing.

by ROBERT LOUIS STEVENSON

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